

**NIST NCSTAR 1-4A**

**Federal Building and Fire Safety Investigation of the  
World Trade Center Disaster**

**Post-Construction Fires Prior to  
September 11, 2001**

Erica D. Kuligowski  
David D. Evans  
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U.S. Department of Commerce  
*Carlos M. Gutierrez, Secretary*

Technology Administration  
*Michelle O'Neill, Acting Under Secretary for Technology*

National Institute of Standards and Technology  
*William Jeffrey, Director*

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# ABSTRACT

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Fires occurred in World Trade Center (WTC) 1, 2, and 7 prior to September 11, 2001. This report documents the facts of significant fires in the buildings after first occupancy as they relate to the performance of the automatic sprinkler, manual suppression, fire detection, and smoke purge systems. The ultimate goal of this review was to identify from New York City Fire Department (FDNY) records significant but not well-known fires for further study.

From the information contained in FDNY fire reports and fire investigation records provided to the National Institute of Standards and Technology (NIST), 47 fires occurred in WTC 1, 2, and 7 that were of sufficient size and duration to activate multiple sprinklers or were estimated by NIST to be capable of doing so, over the time period the buildings were occupied. This total does not include the major 1975 office fire in WTC 1 or the 1993 bombing.

The records indicate that in areas protected by automatic sprinklers, no fire activated more than three sprinklers. Three sprinklers would provide coverage for a floor area of approximately 675 ft<sup>2</sup> (63 m<sup>2</sup>). This area is much smaller than the 9,000 ft<sup>2</sup> (800 m<sup>2</sup>) damaged by the 1975 fire in an office space unprotected with automatic sprinklers.

Many of the fires that occurred were recorded as suspicious or unknown in cause, occurred during off peak work hours, and involved materials such as trash or paper-based supplies. In cases where sprinklers were activated, the FDNY records indicated that the sprinklers either extinguished the fire completely or aided in controlling the spread.

Keywords: Fire, fire detection, manual fire suppression, smoke purge systems, sprinklers, World Trade Center.

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## LIST OF ACRONYMS AND ABBREVIATIONS

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### Acronyms

DTAP	dissemination and technical assistance program
FDNY	New York City Fire Department
FEMA	Federal Emergency Management Agency
HVAC	heating, ventilating, and air conditioning
NIST	National Institute of Standards and Technology
PANYNJ	Port Authority of New York and New Jersey
R&D	research and development
WTC	World Trade Center
WTC 1	World Trade Center 1 (North Tower)
WTC 2	World Trade Center 2 (South Tower)
WTC 7	World Trade Center 7

### Abbreviations

ft <sup>2</sup>	square foot
m <sup>2</sup>	square meter

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# PREFACE

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## Genesis of This Investigation

Immediately following the terrorist attack on the World Trade Center (WTC) on September 11, 2001, the Federal Emergency Management Agency (FEMA) and the American Society of Civil Engineers began planning a building performance study of the disaster. The week of October 7, as soon as the rescue and search efforts ceased, the Building Performance Study Team went to the site and began its assessment. This was to be a brief effort, as the study team consisted of experts who largely volunteered their time away from their other professional commitments. The Building Performance Study Team issued its report in May 2002, fulfilling its goal “to determine probable failure mechanisms and to identify areas of future investigation that could lead to practical measures for improving the damage resistance of buildings against such unforeseen events.”

On August 21, 2002, with funding from the U.S. Congress through FEMA, the National Institute of Standards and Technology (NIST) announced its building and fire safety investigation of the WTC disaster. On October 1, 2002, the National Construction Safety Team Act (Public Law 107-231), was signed into law. The NIST WTC Investigation was conducted under the authority of the National Construction Safety Team Act.

The goals of the investigation of the WTC disaster were:

- To investigate the building construction, the materials used, and the technical conditions that contributed to the outcome of the WTC disaster.
- To serve as the basis for:
  - Improvements in the way buildings are designed, constructed, maintained, and used;
  - Improved tools and guidance for industry and safety officials;
  - Recommended revisions to current codes, standards, and practices; and
  - Improved public safety.

The specific objectives were:

1. Determine why and how WTC 1 and WTC 2 collapsed following the initial impacts of the aircraft and why and how WTC 7 collapsed;
2. Determine why the injuries and fatalities were so high or low depending on location, including all technical aspects of fire protection, occupant behavior, evacuation, and emergency response;
3. Determine what procedures and practices were used in the design, construction, operation, and maintenance of WTC 1, 2, and 7; and
4. Identify, as specifically as possible, areas in current building and fire codes, standards, and practices that warrant revision.

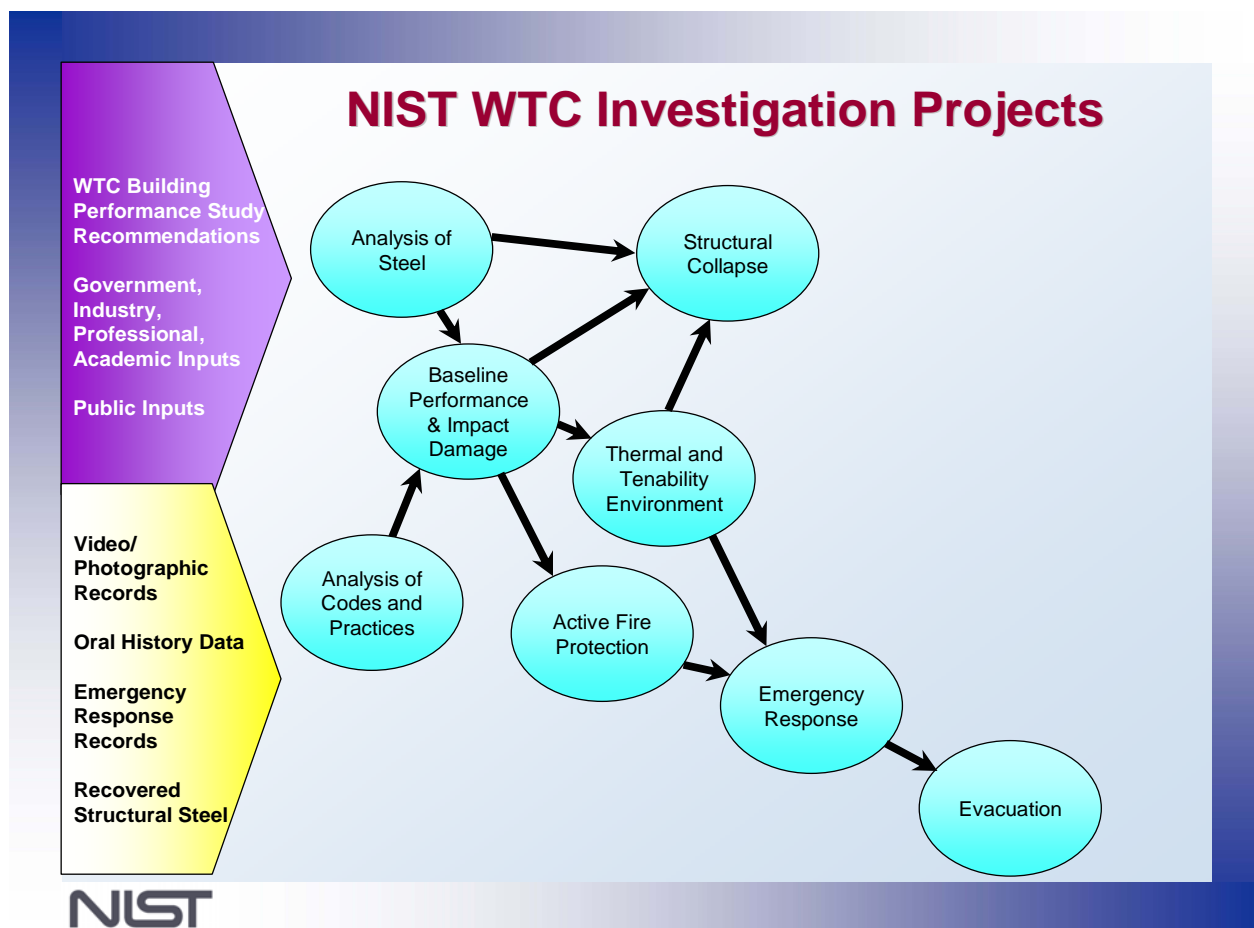
NIST is a nonregulatory agency of the U.S. Department of Commerce's Technology Administration. The purpose of NIST investigations is to improve the safety and structural integrity of buildings in the United States, and the focus is on fact finding. NIST investigative teams are authorized to assess building performance and emergency response and evacuation procedures in the wake of any building failure that has resulted in substantial loss of life or that posed significant potential of substantial loss of life. NIST does not have the statutory authority to make findings of fault nor negligence by individuals or organizations. Further, no part of any report resulting from a NIST investigation into a building failure or from an investigation under the National Construction Safety Team Act may be used in any suit or action for damages arising out of any matter mentioned in such report (15 USC 281a, as amended by Public Law 107-231).

## Organization of the Investigation

The National Construction Safety Team for this Investigation, appointed by the then NIST Director, Dr. Arden L. Bement, Jr., was led by Dr. S. Shyam Sunder. Dr. William L. Grosshandler served as Associate Lead Investigator, Mr. Stephen A. Cauffman served as Program Manager for Administration, and Mr. Harold E. Nelson served on the team as a private sector expert. The Investigation included eight interdependent projects whose leaders comprised the remainder of the team. A detailed description of each of these eight projects is available at <http://wtc.nist.gov>. The purpose of each project is summarized in Table P-1, and the key interdependencies among the projects are illustrated in Fig. P-1.

**Table P-1. Federal building and fire safety investigation of the WTC disaster.**

Technical Area and Project Leader	Project Purpose
Analysis of Building and Fire Codes and Practices; Project Leaders: Dr. H. S. Lew and Mr. Richard W. Bukowski	Document and analyze the code provisions, procedures, and practices used in the design, construction, operation, and maintenance of the structural, passive fire protection, and emergency access and evacuation systems of WTC 1, 2, and 7.
Baseline Structural Performance and Aircraft Impact Damage Analysis; Project Leader: Dr. Fahim H. Sadek	Analyze the baseline performance of WTC 1 and WTC 2 under design, service, and abnormal loads, and aircraft impact damage on the structural, fire protection, and egress systems.
Mechanical and Metallurgical Analysis of Structural Steel; Project Leader: Dr. Frank W. Gayle	Determine and analyze the mechanical and metallurgical properties and quality of steel, weldments, and connections from steel recovered from WTC 1, 2, and 7.
Investigation of Active Fire Protection Systems; Project Leader: Dr. David D. Evans; Dr. William Grosshandler	Investigate the performance of the active fire protection systems in WTC 1, 2, and 7 and their role in fire control, emergency response, and fate of occupants and responders.
Reconstruction of Thermal and Tenability Environment; Project Leader: Dr. Richard G. Gann	Reconstruct the time-evolving temperature, thermal environment, and smoke movement in WTC 1, 2, and 7 for use in evaluating the structural performance of the buildings and behavior and fate of occupants and responders.
Structural Fire Response and Collapse Analysis; Project Leaders: Dr. John L. Gross and Dr. Therese P. McAllister	Analyze the response of the WTC towers to fires with and without aircraft damage, the response of WTC 7 in fires, the performance of composite steel-trussed floor systems, and determine the most probable structural collapse sequence for WTC 1, 2, and 7.
Occupant Behavior, Egress, and Emergency Communications; Project Leader: Mr. Jason D. Averill	Analyze the behavior and fate of occupants and responders, both those who survived and those who did not, and the performance of the evacuation system.
Emergency Response Technologies and Guidelines; Project Leader: Mr. J. Randall Lawson	Document the activities of the emergency responders from the time of the terrorist attacks on WTC 1 and WTC 2 until the collapse of WTC 7, including practices followed and technologies used.



**Figure P-1. The eight projects in the federal building and fire safety investigation of the WTC disaster.**

### National Construction Safety Team Advisory Committee

The NIST Director also established an advisory committee as mandated under the National Construction Safety Team Act. The initial members of the committee were appointed following a public solicitation. These were:

- Paul Fitzgerald, Executive Vice President (retired) FM Global, National Construction Safety Team Advisory Committee Chair
- John Barsom, President, Barsom Consulting, Ltd.
- John Bryan, Professor Emeritus, University of Maryland
- David Collins, President, The Preview Group, Inc.
- Glenn Corbett, Professor, John Jay College of Criminal Justice
- Philip DiNenno, President, Hughes Associates, Inc.

- Robert Hanson, Professor Emeritus, University of Michigan
- Charles Thornton, Co-Chairman and Managing Principal, The Thornton-Tomasetti Group, Inc.
- Kathleen Tierney, Director, Natural Hazards Research and Applications Information Center, University of Colorado at Boulder
- Forman Williams, Director, Center for Energy Research, University of California at San Diego

This National Construction Safety Team Advisory Committee provided technical advice during the Investigation and commentary on drafts of the Investigation reports prior to their public release. NIST has benefited from the work of many people in the preparation of these reports, including the National Construction Safety Team Advisory Committee. The content of the reports and recommendations, however, are solely the responsibility of NIST.

## **Public Outreach**

During the course of this Investigation, NIST held public briefings and meetings (listed in Table P-2) to solicit input from the public, present preliminary findings, and obtain comments on the direction and progress of the Investigation from the public and the Advisory Committee.

NIST maintained a publicly accessible Web site during this Investigation at <http://wtc.nist.gov>. The site contained extensive information on the background and progress of the Investigation.

## **NIST's WTC Public-Private Response Plan**

The collapse of the WTC buildings has led to broad reexamination of how tall buildings are designed, constructed, maintained, and used, especially with regard to major events such as fires, natural disasters, and terrorist attacks. Reflecting the enhanced interest in effecting necessary change, NIST, with support from Congress and the Administration, has put in place a program, the goal of which is to develop and implement the standards, technology, and practices needed for cost-effective improvements to the safety and security of buildings and building occupants, including evacuation, emergency response procedures, and threat mitigation.

The strategy to meet this goal is a three-part NIST-led public-private response program that includes:

- A federal building and fire safety investigation to study the most probable factors that contributed to post-aircraft impact collapse of the WTC towers and the 47-story WTC 7 building, and the associated evacuation and emergency response experience.
- A research and development (R&D) program to (a) facilitate the implementation of recommendations resulting from the WTC Investigation, and (b) provide the technical basis for cost-effective improvements to national building and fire codes, standards, and practices that enhance the safety of buildings, their occupants, and emergency responders.



**Table P–2. Public meetings and briefings of the WTC Investigation.**

<b>Date</b>	<b>Location</b>	<b>Principal Agenda</b>
June 24, 2002	New York City, NY	Public meeting: Public comments on the <i>Draft Plan</i> for the pending WTC Investigation.
August 21, 2002	Gaithersburg, MD	Media briefing announcing the formal start of the Investigation.
December 9, 2002	Washington, DC	Media briefing on release of the <i>Public Update</i> and NIST request for photographs and videos.
April 8, 2003	New York City, NY	Joint public forum with Columbia University on first-person interviews.
April 29–30, 2003	Gaithersburg, MD	NCST Advisory Committee meeting on plan for and progress on WTC Investigation with a public comment session.
May 7, 2003	New York City, NY	Media briefing on release of <i>May 2003 Progress Report</i> .
August 26–27, 2003	Gaithersburg, MD	NCST Advisory Committee meeting on status of the WTC investigation with a public comment session.
September 17, 2003	New York City, NY	Media and public briefing on initiation of first-person data collection projects.
December 2–3, 2003	Gaithersburg, MD	NCST Advisory Committee meeting on status and initial results and release of the <i>Public Update</i> with a public comment session.
February 12, 2004	New York City, NY	Public meeting on progress and preliminary findings with public comments on issues to be considered in formulating final recommendations.
June 18, 2004	New York City, NY	Media/public briefing on release of <i>June 2004 Progress Report</i> .
June 22–23, 2004	Gaithersburg, MD	NCST Advisory Committee meeting on the status of and preliminary findings from the WTC Investigation with a public comment session.
August 24, 2004	Northbrook, IL	Public viewing of standard fire resistance test of WTC floor system at Underwriters Laboratories, Inc.
October 19–20, 2004	Gaithersburg, MD	NCST Advisory Committee meeting on status and near complete set of preliminary findings with a public comment session.
November 22, 2004	Gaithersburg, MD	NCST Advisory Committee discussion on draft annual report to Congress, a public comment session, and a closed session to discuss pre-draft recommendations for WTC Investigation.
April 5, 2005	New York City, NY	Media and public briefing on release of the probable collapse sequence for the WTC towers and draft reports for the projects on codes and practices, evacuation, and emergency response.
June 23, 2005	New York City, NY	Media and public briefing on release of all draft reports for the WTC towers and draft recommendations for public comment.
September 12–13, 2005	Gaithersburg, MD	NCST Advisory Committee meeting on disposition of public comments and update to draft reports for the WTC towers.
September 13–15, 2005	Gaithersburg, MD	WTC Technical Conference for stakeholders and technical community for dissemination of findings and recommendations and opportunity for public to make technical comments.

- A dissemination and technical assistance program (DTAP) to (a) engage leaders of the construction and building community in ensuring timely adoption and widespread use of proposed changes to practices, standards, and codes resulting from the WTC Investigation and the R&D program, and (b) provide practical guidance and tools to better prepare facility owners, contractors, architects, engineers, emergency responders, and regulatory authorities to respond to future disasters.

The desired outcomes are to make buildings, occupants, and first responders safer in future disaster events.

## National Construction Safety Team Reports on the WTC Investigation

A final report on the collapse of the WTC towers is being issued as NIST NCSTAR 1. A companion report on the collapse of WTC 7 is being issued as NIST NCSTAR 1A. The present report is one of a set that provides more detailed documentation of the Investigation findings and the means by which these technical results were achieved. As such, it is part of the archival record of this Investigation. The titles of the full set of Investigation publications are:

NIST (National Institute of Standards and Technology). 2005. *Federal Building and Fire Safety Investigation of the World Trade Center Disaster: Final Report on the Collapse of the World Trade Center Towers*. NIST NCSTAR 1. Gaithersburg, MD, September.

NIST (National Institute of Standards and Technology). 2006. *Federal Building and Fire Safety Investigation of the World Trade Center Disaster: Final Report on the Collapse of World Trade Center 7*. NIST NCSTAR 1A. Gaithersburg, MD.

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# Chapter 1

## NEW YORK CITY FIRE DEPARTMENT RECORDS

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Fires occurred in World Trade Center (WTC) 1, 2, and 7 prior to September 11, 2001. This report documents the facts of significant fires in the buildings after first occupancy as they relate to the performance of the automatic sprinkler, manual suppression, fire detection, and smoke purge systems. The ultimate goal of this review was to identify from New York City Fire Department (FDNY) records significant but not well known fires for further study.

### 1.1 BACKGROUND

The fire protection engineering department of the Port Authority of New York and New Jersey (PANYNJ) maintained records of all significant fire events in the WTC buildings. These records were lost in the collapse of the towers.

Two significant fire events involving WTC 1 are well known. On February 14, 1975, a fire started on floor 11 of WTC 1. Workers reported the fire to WTC police headquarters. When police reached the fire floor, they reported a serious fire and ordered the heating, ventilating, and air conditioning (HVAC) system be placed into the smoke purge mode. Fire spread through unprotected floor openings in utility closets. Fire damage occurred on floor 10 through floor 19. Approximately 9,000 ft<sup>2</sup> (800 m<sup>2</sup>) of the floor 11 contents were destroyed or damaged. At that time, sprinklers had not been installed in the office spaces. However, fire barriers divided the floor into quadrants. The fire on floor 11 was confined to the southeast quadrant. Fire damage on other floors was confined to the utility closets. The fire was extinguished by the FDNY. More details about this fire incident can be found in Powers (1975) and Lathrop (1975).

At 12:18 p.m. on February 26, 1993, a bomb exploded in an underground parking garage of the WTC complex. The explosion occurred on the B2 level in the area of the garage under WTC 3 and adjacent to WTC 1. The explosion resulted in a loss of normal electric power in WTC 1 and WTC 2. HVAC systems shut down. Smoke spread throughout WTC 1 and to a lesser extent in WTC 2. More details about this fire can be found in Isner and Klein (1993a, 1993b). The only historic record of smaller fire incidents in WTC 1, 2, and 7 known to this investigation are the fire reports and fire investigation reports prepared by the FDNY. These reports were provided to NIST by the FDNY for use in this Investigation.

### 1.2 FDNY FIRE REPORTS AND FIRE INVESTIGATION REPORTS

The FDNY released 397 Bureau of Operations Fire Reports and 112 Bureau of Fire Investigation Records (Fire Marshals' Reports), which served as the basis for a summary of the fire history in WTC 1, 2, and 7. The National Institute of Standards and Technology (NIST) obtained reports of fires for the period of 1970–2001 and fire investigation records between 1977 and 2001 for WTC 1, 2, and 7, which in total, consisted of over 500 documents on which to report. These records included all responses to fires in WTC 1, 2, and 7 by the FDNY. All of these records consist of standardized forms that may be

supplemented with other materials. Many were for minor fire events, such as fires that were extinguished by occupants before FDNY arrival. These were not of interest for this investigation. The records of significant fires were identified.

Significant fire incidents were those that exercised the fire suppression systems, specifically multiple sprinklers or multiple standpipes (with or without the activation of at least one sprinkler). These fires will be discussed individually, organized by the building in which they occurred. In addition to these fires, generalized facts relating to those fires involving the use of one standpipe line and one sprinkler and the use of one standpipe line will be provided throughout this report. Appendixes A through H of this report are explanation of numeric codes and reproductions of relevant fire reports. As an aside, the majority of fire records for significant fires documented the performance of the detectors and sprinkler systems, but almost all reports lacked information about the performance of the smoke purge system.

### **1.2.1 Fire Record Forms**

Depending upon the type and date of the incident, a specific fire report form was used by the FDNY to document the incident. For each type of emergency responded to by the FDNY, responders either completed a form that would describe a structural fire (BF-24) or a form that would describe any other type of emergency (BF-25), such as a nonstructural fire, transportation fire, and/or any other nonfire emergency. For this historical summary, only those events logged and organized under the structural fire form, 345 documents total, were of interest and used. A structural fire form is a one-page document (unless additional information is recorded on separate sheets) that gives valuable information about the fire event on various subjects, including:

- Alarm—the date and time of the received alarm
- Injuries and casualties—the numbers of each for the incident
- Extinguishment—details of the sprinkler and standpipe performance
- Ignition—information on the equipment involved in ignition, the form of the ignition source, the material type and form that was ignited, and the ignition factor (cause)
- Structure—information on the class of construction, the use of the building, and its status (vacant, occupied, under construction, etc.)
- Fire origin—the fire location and classification
- Fire extension—the means of fire extension and number of buildings/vehicles involved
- Damage—information on the damage done by flame, smoke, and water
- Detectors—the type, power source, and performance of the detectors in the fire area

Each subject of the incident is given a set of codes or numbers that correspond to any incident, and in order to read the fire records successfully, an understanding of the codes is necessary (see Appendixes A,



B, and C). For the nonstructural B-25 record forms, the only fire-related subjects included are the injury and casualty numbers, ignition, and structure information.

Depending upon the date of the fire incident, certain information is lacking from the structural fire form. Before 1980, a different record form for structural fire incidents was used that left out the following subjects: fire extension, damage, detectors, and portions of the ignition data. Because of this, detection data are not available for the majority of the fires occurring before 1980.

### 1.2.2 Overview of Fire Incidents 1970–2001 from FDNY Records

Table 1–1 contains the categorization of all structural fire incidents contained in the FDNY records for WTC 1, 2, and 7 available to this investigation. The table contains information on the category of fire incident (whether or not the detection and/or sprinkler systems activated), the time period over which the fires occurred, the numbers of records in that category, and a descriptive statement about the category.

**Table 1–1. Categorization of WTC 1, 2, and 7 fires from FDNY records.**

Category	Dates	Number	Generalization of Incidents
<b>WTC 1</b>			
No detection, no sprinkler	1980–2001	66	Unattended food/appliances, overheated elevator equipment, discarded material, welding operations, electrical failure and suspicious fires
No detection information and no sprinklers	1970–1979	79	Trash can fires, discarded material, food on stove, electrical failure, overheated equipment
Detection, no sprinklers	1980–2000	57	Unattended food/appliances, overheated elevator equipment, discarded material, welding operations, electrical failure
Detection and sprinklers	1977–1999	18	Suspicious, electrical failure, discarded material
<b>WTC 2</b>			
No detection, no sprinkler	1980–1999	37	Discarded material, welding too close, overheated equipment, suspicious, elevator motor
No detection information and no sprinklers	1975–1979	40	Discarded material, fire in office furniture, trash can fires
Detection, no sprinklers	1981–1999	40	Food on stove, small elevator fire, electrical failure, suspicious, overheated equipment
Detection and sprinklers	1977–2000	5	Mechanical failure, suspicious
<b>WTC 7</b>			
No detection, no sprinkler	2000	1	Trash can fire/discarded material
Detection, no sprinklers	1990	1	Electrical switch on floor — explosion
Detection and sprinklers	1988	1	Suspicious

All FDNY records provided to NIST, unless the records were not readable, contained relevant information about the type and performance of the suppression system. Because of this, reports of incidents in which the sprinkler system activated can range from 1970 to 2001. When the table lists “[detection]” in brackets, this is meant to symbolize that either detection was present or no information on detector performance was included on the form (as is the case with the older records). An attempt was made to compare all investigation records with the fire reports, especially those which activated the suppression system. Looking at the records in Table 1–1, it is clear that only 24 fires activated the sprinkler system from 1970–2001 from all three buildings. Many of the other structural fires without sprinkler activation were labeled as suspicious, trash can fires, electrical failures, unattended food/appliances, or overheated equipment.

In order to report on significant structural fires occurring in WTC 1, 2, and 7, the FDNY records had to be reviewed for those incidents that activated sprinklers, detectors, or were extinguished by hose line and those smaller fires that self-extinguished or could be extinguished using a fire extinguisher. The structural fire incidents without detection information (before 1980), had to be reviewed to locate any fires that activated the sprinkler system.

The retrofit installation of sprinklers into WTC buildings 1 and 2 was accomplished in two phases. During the first phase in 1976, sprinkler risers/mains were installed throughout WTC 1 and WTC 2. Sprinklers were installed to protect corridors, storage rooms, lobbies, and certain tenant/PANYNJ spaces. In the second phase of the retrofit from 1983 to 2001, sprinklers were installed in all remaining places in the complex (PACO 2002; shown in Appendix I). Prior to the retrofit, only the sub-grade areas and selected hazard areas were protected by automatic sprinklers. This retrofit, proceeded throughout the buildings as much as practical when other renovations of the office spaces were under way, such as when change of tenants occurred.

After the installation of the sprinkler risers in 1976, tenants had the option of providing sprinklers or compartmentation for fire protection in compliance with Local Law 5. It was therefore possible that during the period of time when retrofit installation of sprinklers was under way, a fire that occurred may or may not have been in an area protected by automatic sprinklers.

The forms used by the FDNY after 1987 give a detailed description of the event and whether or not a system was present at the time of the fire; however, a fire recorded before 1987 will give data only on the number of sprinklers opened. Because of this, an effort was made to look through all reports, especially those that mentioned detection performance, in order to identify fires involving the use of standpipe lines by the FDNY as an alternate indication of a significant fire.

The next section of the report will highlight significant fires occurring in WTC 1, 2, and 7. The significant fires will be described individually by WTC building, and organized by the date on which they occurred in the building. In addition to these significant fires, (1) the fires that activated one sprinkler head and involved the use of one standpipe and (2) the fires that involved the use of only one standpipe, due to the number of incidents, will be generalized as to the nature of the incidents and the procedures followed by the FDNY.

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## Chapter 2

### SIGNIFICANT FIRES IN WTC 1, 2, AND 7

#### 2.1 FIRE INCIDENTS OCCURRING IN WTC 1

After reviewing all the New York City Fire Department (FDNY) records of fire incidents in World Trade Center 1 (WTC 1) since 1970, the significant fires were selected. There were 12 significant fires found for WTC 1, and the fire reports are included in Appendix D. Table 2–1 provides a summary of the fire incident information from the FDNY records, which is followed by individual paragraphs about each incident.

**Table 2–1. Significant fires in WTC 1 extinguished by sprinklers and/or multiple standpipe lines.**

Significant Fire	Incident Date	Fire Location	No. of Sprinklers Activated	No. of Standpipes Used	Cause of Fire	Material Ignited
1	9/9/77	B-6 level storage room	2	0	None listed	Not listed
2	9/23/77	Dumpster on B-4 level	2	0	Not classified	Trash/waste
3	10/16/81	Floor 19 office area	–	2	Discarded material	Furniture
4	12/23/83	2 dumpsters on B-4 level	2	1	Suspicious	Trash/waste
5	1/27/85	Office space on mezzanine level (floor 2)	2	1	Incendiary	Trash/waste
6	9/10/85	Garbage dumpster in service elevator lobby on floor 43	2	1	Suspicious	Trash/waste
7	11/1/85	Storage closet on B-4 level	3	1	Suspicious	Supplies/stock
8	6/7/86	Dumpster fire on floor 106, compactor room on floor 107	2	1	None listed	Trash/waste
9	9/30/91	Office on B-4 level	≥1	2	Discarded material	Trash/waste
10	11/19/91	Electrical closet on floor 93	0	2	Short circuit	Electrical wire or cable insulation
11	7/23/92	Level B-5 at the power distribution panel	0	2	Electrical failure	Electrical wire or cable insulation
12	11/10/99	Computer room on floor 104	3	≥1	None listed	Plastics, electronic equip

**Key:** ≥ symbol denotes that at least one of the units of the suppression system was used (and not specifically identified by the fire report); – indicates that the report acknowledges 0 sprinklers open; however, due to the date of the fire, the space may not have had a sprinkler system installed.

### Significant Fire #1

On September 9, 1977, at 11:04 p.m., the FDNY received an alarm for a fire in the B-6 level storage room at the address of WTC 1. The fire activated two sprinklers, and was noted to be extinguished before the FDNY's arrival.

### Significant Fire #2

Another fire occurred on September 23, 1977, at 11:48 p.m., in a dumpster on the B-4 level of WTC 1. This fire also activated two sprinklers, and the FDNY noted that the fire had been extinguished prior to their arrival.

In both cases, no injuries or casualties resulted from these fires, and the damage was confined to the area of origin.

### Significant Fire #3

Six years later, on October 16, 1981, at 7:12 p.m., a fire occurred on floor 19 of WTC 1. The FDNY noted that they used two standpipe lines to extinguish the fire and that one person was evacuated from the scene. Again, the fire report notes that no sprinklers opened, but does not note whether or not sprinklers were present at the time of the fire. Given the date of the incident, sprinklers are not expected to be located on floor 19. The fire was caused by discarded material and involved furniture in an office area of the floor.

### Significant Fire #4

Six years later on December 23, 1983, at 2:50 a.m., the FDNY responded to an alarm of fire and heavy smoke conditions on the B-4 level of WTC 1. The FDNY found two dumpsters fully involved in separate locations on the same floor and noted that the two activated sprinklers extinguished a major portion of the fire. The FDNY extinguished the rest of the flames by stretching hose from the standpipe system. Again, no injuries or casualties resulted from this fire. The cause noted on the report was suspicious and the damage was confined to the origin of the fire.

### Significant Fire #5

On January 27, 1985, at 8:53 p.m., the FDNY was called for a fire located in an unoccupied office on the mezzanine level of WTC 1. Two sprinklers contained the incendiary (involving arson) fire consuming trash paper/waste. When the FDNY arrived, they extinguished the remaining fire with one standpipe line. Building and content damage was confined to less than 15 percent of the space. Also, no injuries or casualties were reported.

### Significant Fire #6

Eight months later on September 10, 1985, at 4:05 p.m., the Port Authority Police informed the FDNY on arrival of a sprinkler flow and smoke condition on floor 43. A medium smoke condition was report by the FDNY on floor 43, where a fire was extinguished by two sprinklers. The fire report notes the use of one standpipe line; however, this was used during the overhaul process. This fire originated suspiciously in a garbage dumpster in a service elevator lobby. There was no building or content damage as well as no injuries or casualties reported.

#### Significant Fire #7

On November 1, 1985, at 4:05 a.m., the FDNY was called for another suspicious fire producing heavy smoke on the B-4 level under WTC 1 and WTC 2. This fire occurred in a storage closet of the men's bathroom, and the FDNY noted that three sprinklers activated to keep the fire under control until their arrival. Upon arrival, the FDNY extinguished the remaining fire in the closet area with one standpipe line. Again, the damage was noted to be confined to the area of origin.

#### Significant Fire #8

Less than a year later, on June 7, 1986, at 9:49 a.m., the FDNY received an alarm for a heavy smoke condition on floor 110. For this call, fires were burning in two separate places: a garbage dumpster on floor 106 and the compactor room on floor 107. Sprinklers were noted in operation in both locations and seemed to control the fires, until the FDNY could complete extinguishment with one standpipe line on floor 106. There was no report of injuries or casualties for the previous two fires.

#### Significant Fire #9

An additional fire occurred in WTC 1 where multiple standpipe lines were used along with the activation of the sprinkler system. This fire occurred on September 30, 1991, at 6:32 p.m., in an office on the B-4 level. The fire report noted that the sprinkler system operated; however, there is no mention of how many sprinklers or even their activation in the Operations/Comments section of the report. Two 1 3/4 in. or larger hose lines were used by the FDNY to extinguish this fire. The cause of the fire was abandoned material (cigarette) igniting boxes/carton material in an office. The fire damage was confined to the area of origin and smoke damage was confined to the floor. There was one uniformed officer injured and no civilian injuries or casualties.

#### Significant Fire #10

A fire occurred on November 19, 1991, at 6:27 p.m., and two 2 1/2 in. standpipe hose lines were used by the FDNY. The FDNY responded to WTC 1 for this fire due to a report of fire and smoke condition in electrical closets on possibly four floors (floors 93–96) and an alarm transmitted from floors 93 through 98. According to the fire report, the sprinklers were in service, but did not operate for this fire. The noted cause of this fire was a short circuit and the material that was ignited was electrical wire or cable insulation. The fire and smoke damage was confined to its area of origin (electrical closet). Two occupants were removed from stalled elevators during this incident, and occupants were evacuated from the scene, although an exact number is not given. Also, two occupants were injured and required first aid.

#### Significant Fire #11

The FDNY responded to WTC 1 on July 23, 1992, at 10:02 p.m., due to a transformer fire on the 5th subbasement level. Firefighters found a fire situation in a large power distribution panel, where a firefighter was knocked unconscious by a shock blast from the panel. Similar to the fire in November 1991, two 2 1/2 in. standpipe hose lines were used by the FDNY on this fire. The cause of the fire was an electrical failure and the material ignited was electrical wire or cable insulation. No appreciable damage is noted. As mentioned earlier, one firefighter was injured as well as three civilians.

#### Significant Fire #12

The final fire associated with WTC 1 was one that occurred on November 10, 1999, at 11:01 p.m., in a computer room on floor 104. The FDNY noted that the fire was “knocked down” by three sprinklers

when they arrived and they completed extinguishment with a line extended from the standpipe. The flame damage was confined to the area of origin and computer equipment was involved in fueling the fire. There was one injury and no casualties reported in the FDNY record for this fire.

Table 2–1 presents the 12 significant fires in WTC 1. Five of the 12 fires occurred on the basement levels and two occurred on the upper levels (above floor 100). The causes of these significant fires include suspicious, discarded materials, and electrical failures.

## 2.2 FIRE INCIDENTS OCCURRING IN WTC 2

Table 2–2 presents the significant fire occurring in WTC 2. There were three significant fires found for WTC 2, and the fire reports are included in Appendix E. Table 2–2 provides a summary of the fire incident information from FDNY records, which is followed by individual paragraphs about each incident.

**Table 2–2. Significant fires in WTC 2 extinguished by sprinklers and/or multiple standpipe lines.**

Significant Fire	Incident Date	Fire Location	Number of Sprinklers Activated	Number of Standpipes Used	Cause of Fire	Material Ignited
1	5/19/75	Floor 32	–	3	Incendiary	Trash/waste
2	4/12/77	Ductwork over grill in restaurant on floor 107	2	0	None listed	Ductwork
3	3/22/93	Fan motor room on floor 108	2	0	Mechanical failure	Not classified

**Key:** – Indicates that the report acknowledges 0 sprinklers open; however, due the date of the fire, the space may not have had a sprinkler system installed.

### Significant Fire #1

A fire occurred on May 19, 1975, at 9:38 p.m., on floor 32 of WTC 2. The FDNY noted that they used three standpipe lines to extinguish the fire and that the Port Authority reported occupants trapped on floors 31 and 32. The fire report notes that no sprinklers opened, but does not note whether or not sprinklers were present at the time of the fire. Given the date of the incident, sprinklers are not expected to be located on floors 31 and 32. The fire was labeled as incendiary and involved trash/waste. The FDNY stated that the fire involved the core area of the floor and was confined to that area. More than 20 people (civilians and uniformed personnel) were injured by this incident.

### Significant Fire #2

On April 4, 1977, at 1:15 p.m., the FDNY was called to WTC 2 for a fire in the ductwork over the grills in a restaurant on floor 107. The FDNY record on this fire noted that the fire was extinguished prior to its arrival. The damage was confined to the area of origin, and the fire caused no injuries or casualties.

### Significant Fire #3

The second fire occurred on March 22, 1993, at 8:39 a.m., and caused a smoke condition on floor 108. The fire activated two sprinklers due to an overheated bearing in a fan motor room on floor 108. The



damage to the area did not exceed 15 percent of the space, and there were no injuries or casualties reported.

Table 2–2 presents the three significant fires in WTC 2. No fires were discovered in WTC 2 where multiple sprinklers or standpipes were used with another suppression system. Two of the three fires occurred on the upper levels (above floor 100) and the other occurred on floor 32. The causes of these significant fires included incendiary and mechanical failures.

### **2.3 ADDITIONAL FIRES INVOLVING DEPLOYMENT OF STANDPIPE LINES IN WTC 1 AND WTC 2**

The fires described in this section (31 in total) involve the use of one standpipe, with and without the activation of one sprinkler for WTC 1 and WTC 2. Four of the 31 reports describe fires that were extinguished with one sprinkler and one standpipe line (see Appendix F). Three of these fires were located in WTC 1 between the years of 1986–1991 and the other in WTC 2 in 1981. Two of these fires occurred in basement levels, one occurred on floor 106 of WTC 1, and the last on floor 5 in WTC 1. In some of the fire reports, the FDNY noted that the sprinkler controlled the fire, and the standpipe was used to actually extinguish the remaining fire. Half of the fires were labeled as incendiary/suspicious, one was an electrical failure, and the last was unknown.

In addition, 27 of the 31 fire reports describe fires that were extinguished using one standpipe line (see Appendix G). Twenty of these fires occurred in WTC 1 and the other seven occurred in WTC 2. A majority of these fires (19) are labeled as incendiary/suspicious or unknown, while the other causes of the fires are attributed to short circuits, abandoned material/cigarette, welding close to combustibles, and a mechanical failure. The dates of occurrence for these fires range from 1973–1999, with a majority (23) occurring between the years of 1973–1985. These fire incidents did not result in any casualties, but five civilians and one uniformed officer were injured.

Two of the 27 fires involved a 300-person (April 19, 1980) and a 1,500-person (April 17, 1981) evacuation. These will be described in further detail. On April 19, 1980, at 2:06 p.m., the FDNY received reports of an activated smoke detector in the return air duct on floor 106 of WTC 1. The FDNY also received reports of heavy smoke on floor 106, light smoke on floor 109, and heavy odor of smoke in stairways A and B. The report notes that while only one standpipe was used, approximately 300 people were evacuated from the Windows on the World restaurant on floor 107 via stairway C (which was clear of smoke). The fire cause was labeled as abandoned or discarded material and involved plastic material. This fire did not cause any injuries or casualties.

On April 17, 1981, at 9:18 a.m., the FDNY was informed of a fire on floor 7 and a smoke condition on floors 7 through 11 of WTC 1. The FDNY hooked up one standpipe and extinguished the fire located in an air conditioning unit in the “MER” room on floor 7. The cause of this fire was labeled as a mechanical failure. The fire report notes that the Port Authority personnel reported an evacuation of approximately 1,500 people from floors 9 through 23. However, no injuries or casualties were reported from this fire.

## 2.4 FIRE INCIDENTS OCCURRING IN WTC 7

Table 2–3 presents the significant fire occurring in WTC 7. There was one significant fire found for WTC 7, and the fire report is included in Appendix H. Table 2–3 provides a summary of the fire incident information from FDNY records, which is followed by an individual paragraph on the incident.

**Table 2–3. Significant fires in WTC 7 extinguished by sprinklers and/or multiple standpipe lines.**

Significant Fire	Incident Date	Fire Location	Number of Sprinklers Activated	Number of Standpipes Used	Cause of Fire	Material Ignited
1	5/20/88	Construction shanties on floor 3	Multiple, number not listed	1	Suspicious	Shanties

### Significant Fire #1

In WTC 7, a fire occurred on May 20, 1988, at 12:38 a.m., in the construction shanties on floor 3. Although the fire report does not specifically note the number of sprinklers that activated, the operations notes state that Ladder Truck 10 found the sprinklers (noting more than one) in operation and shut them down. The FDNY had to complete the extinguishment by stretching a line from the standpipe to the fire source. This fire is noted by the report as being suspicious in nature and the flame damage was confined to the area of origin.

It is possible that the fire incidents that were not specifically highlighted, especially those in the areas without sprinklers, involved other methods of extinguishment before FDNY arrival, such as a WTC houseline (pre-connected standpipe hose), hand extinguisher, or bucket of water, as noted on some of the FDNY reports. All other fires, the majority, included in other categories were either self-extinguished, extinguished prior to FDNY arrival (by staff, etc.), or a hand extinguisher was used by the FDNY.

## 2.5 SUMMARY

In summary, 16 significant fires occurred in WTC 1, 2, and 7, with 12 occurring in WTC 1, three in WTC 2, and one in WTC 7. In addition to these, 31 fires occurred in WTC 1 and WTC 2, which involved the use of one standpipe (with or without the activation of one sprinkler). Of these additional 31 fires, 23 occurred in WTC 1 and eight occurred in WTC 2. The following paragraphs will summarize findings from the 16 significant fires that occurred in all three buildings.

After reviewing the 16 significant fires, trends developed relating to the time of day that the fires occurred. Overall, 12 of the 16 fires occurred between the hours of 6 p.m. and 4 a.m. The fires that occurred during office hours (between 7 a.m. and 6 p.m.) included a dumpster fire in the floor 43 elevator lobby (WTC 1), a dumpster fire on floor 106 (WTC 1), a kitchen fire on floor 107 (WTC 2), and a bearing overheating in the fan motor room on floor 108 (WTC 2). Almost all of the incendiary (arson) and suspicious fires (5 out of 6 fires) and unclassified or unlisted fires (4 out of 5 fires) occurred after business hours (before 7 a.m. and after 6 p.m.).

In addition to the time of day of the fire, trends in the cause of the fire and the materials involved in the fire can be highlighted. Of the 16 fires and their causes, five were labeled as unlisted or unclassified, six as suspicious or incendiary, two as discarded material, and three as an electrical failure or mechanical failure. For the material involved in the fire, eight reports noted trash, waste, and supplies; two reported not listed or not classified; one reported furniture; three reported electrical equipment; one reported duct work; and one reported shanties were the material involved in the fire.

Lastly, the location of the fires throughout the buildings was of interest. Of the 16 fires, 4 fires were concentrated above floor 100 and 6 fires were located in the basement. The others (six fires) were spread throughout the rest of the building.

## **2.6 ATTACHMENTS TO THIS FIRE HISTORY**

Appendixes A through H are included as supplements to this report. The first three sections, Appendixes A through C, are explanations of the numeric codes used in the fire reports by the FDNY. Appendix A is included to explain the codes for the fire reports produced prior to and including 1980, Appendix B is included to explain the fire reports produced from 1981 to May 31, 1987, and Appendix C is included to explain the fire reports produced from June 1, 1987, to the present. The report code explanations are divided into the same sections as the fire report and give short descriptions for the numbers used in the fire report under each section. For example, if the ignition factor for a fire occurring in 1990 was given a number code of 54, the reader can find that the cause of the fire was a “short circuit, ground fault.”

Appendixes D through H are reproductions of the actual fire reports produced by the FDNY on the significant fires highlighted in the sections above. The reader can use Appendixes A through C (depending upon the date of the fire) to read the fire reports in more detail than what is provided in this fire history report.

## **2.7 CONCLUSIONS**

From the information contained in FDNY fire reports and fire investigation records provided to NIST, 47 fires occurred in WTC 1, 2, and 7 that were of sufficient size and duration to activate multiple sprinklers or were estimated by NIST to be capable of doing so, over the time period the buildings were occupied. This total does not include the major 1975 office fire in WTC 1 or the 1993 bombing.

The records indicate that in areas protected by automatic sprinklers, no fire activated more than three sprinklers. Three sprinklers would provide coverage for a floor area of approximately 675 ft<sup>2</sup> (63 m<sup>2</sup>). This area is much smaller than the 9,000 ft<sup>2</sup> (800 m<sup>2</sup>) damaged by the 1975 fire in an office space unprotected with automatic sprinklers.

Many of the fires that occurred were recorded as suspicious or unknown in cause, occurred during off-peak work hours, and involved materials such as trash or paper-based supplies. In cases where sprinklers were activated, the FDNY records indicated that the sprinklers either extinguished the fire completely or aided in controlling the spread.

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## Appendix A

### EXPLANATION OF NUMERIC CODES PRIOR TO 1980

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**Explanation of Numeric Codes Used on Fire and Emergency Reports -**

**Prior to 1980**

# CLASSIFICATION OF BUILDING BY USE

## COMMERCIAL

01	Bank
02	Brewery
03	Coal Pocket
04	Department Store
05	Electric Power Plant
06	Factory: Multi occupancy
07	Factory: Single Occupancy
08	Foundry
09	Freight Depot
10	Garage: Non-Storage
11	" " Storage
12	Gas Works
13	Lumber Yard
14	Motor Vehicle Repair Shop
15	Office Building
16	Oil Selling Station
17	Oil Storage Plant
18	Pier, Wharve, Dock, Bulkhead Building
19	Restaurant, Diner
20	Shed, Newsstand, Shanty
21	Shipyard, Drydock
22	Stable
23	Steam Generating plant
24	Store Building, Taxpayer
25	Warehouse, Storehouse
26	Store Building & Private Dwelling
39	Other Commercial

## PUBLIC

40	Airport Building
41	Aryium
42	Bridge
43	Bus Terminal
44	Church, Synagogue
45	Dance Hall, Banquet Hall
46	Dispensary, Clinic
47	Ferry Terminal
	Government Building (Not otherwise classified);
48	City
49	Intersate
50	Federal
51	Foreign
52	State
53	Hospital, Infirmary
54	Nursing Home
55	Railroad Station
56	School; College, University
57	" Private High
58	" Public High
59	" Public Junior High
60	" Private Elementary
61	School: Public Elementary
62	" Children's Nursery
63	" Other
64	Television Studio
65	Theatre, Legitimate
66	Theatre, Motion Picture
67	Transit System - Station Structure
68	Tunnel
69	Other Public

## RESIDENTIAL

80	Apartment Hotel "A"
81	Apartment House "A"
82	Boarding House, Rooming House "B"
83	Convent, Rectory, Monastery, etc.
84	Dormitory-School Club, Lodge
85	Hotel "B"
86	Lodging House "B"
87	Motel
88	Pvt. Dwelling: 1 Family
89	" Two Family
90	Tenement: New Law "A"
91	" Old Law "A"
92	Converted Dwelling "A"
99	Other Residential

## BUILDING STATUS

1	Occupied
2	Partly Occupied, Good Condition
3	Partly Occupied, Deteriorating
4	Vacant
5	Under Demolition
6	Under Construction

## DAMAGE (to Building or Contents)

0	None-No Appreciable
1	Light 0-15%
2	Medium 16%-49%
3	Heavy 50% & Greater

## AREA FIRE ORIGIN -FLOOR

00	Outside Building
01	1st Floor
to	
94	94th and Higher
95	Attic
96	Roof
97	Basement
98	Cellar
99	Sub-cellar

## AREA FIRE ORIGIN-ROOM OR AREA

10	Area Not in Building
11	Attic
12	Awning
13	Balcony
14	Basement
15	Bathroom Toilet
16	Bedroom, Sleeping Area
17	Ceiling
18	Cellar
19	Chimney
20	Classroom Lecture Area
21	Closet
22	Cockloft
23	Court-Exterior
24	Court-Interior
25	Dining Room, Dining Area
26	Duct-Air Conditioning
27	Duct-Exhaust
28	Flooring
29	Furnace Room
30	Hallway-Private
31	Hallway-Public
32	Incinerator Cl set or Room
33	Kitchen, Cooking Area

34	Living Room
35	Lobby
36	Machinery Room
37	Office Area
38	Operating Laboratory Area
39	Partition
40	Porch
41	Projection Booth
42	Recreation Area
43	Roof
44	Sales Showroom Display Area
45	Shaft-Duct, Pipe
46	Shaft-Dumbwaiter
47	Shaft-Elevator
48	Shaft-Exterior Light
49	Shaft-Interior Light
50	Shaft-Vent
51	Shipping Receiving Loading Area
52	Stage
53	Stairway
54	Storage Room Area
55	Vacant-Room, Apartment or area
56	Work Area Workroom
57	Other Areas, Not Classified (State area)

## AREA FIRE ORIGIN-OCCUPANCY CLASSIFICATION

### COMMERCIAL

00	Factory: Chemicals
	Clothing:
01	Dresses
02	Undergarment
03	Other (State Type)
04	Dry Cleaning Laundry
05	Electrical Products
06	Food & Drink Products
07	Furniture
08	Furs, Fur Goods
	Hats:
09	Men's
10	Women's
11	Leather, Leather Products
12	Machine Shop Metal works
13	Paints
14	Paper Products
15	Petroleum Products
16	Plastics, Rubber
17	Printing & Allied Industries
18	Shoes
19	Textiles
20	Toy or Doll
21	Woodworking
22	Other Factories not classified (state type)
	Store:
23	Auto Accessories
24	Bakery
25	Butcher
26	Candy, Cigar, Stationery
27	Clothing
28	Department, large
29	Department, small (5&10)
30	Dry Cleaner & Tailor
31	Drug
32	Electrical Appliances
33	Fruit & Vegetables
34	Furniture
35	Grocery, Dairy, Delicatessen
36	Haberdashery
37	Ladies Accessories
38	Laundry
39	Paint Hardware

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## **Appendix B**

### **EXPLANATION OF NUMERIC CODES FROM 1981 TO 1987**

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**Explanation of Numeric Codes Used on Fire and Emergency Reports -**

**From 1981 to May 31, 1987**

**Type of Report**

- 1 Structural.
- 2 Transportation Fire.
- 3 Non-Structural Fire.
- 4 Emergency Response.
- 5 False Alarm.
- 6 Additional data (for BF 24A).

**How Reported**

- 1 Street Box Manual.
- 2 Telephone.
- 3 Verbal.
- 4 Class 3—Manual, PFA.
- 5 Class 3—Voice, PFA.
- 6 Class 3—Other Automatic, PFA.
- 7 Class 3—ERS.
- 8 Street Box—ERS.
- 9 Class 3—Manual, FONY.
- 10 Pre-recorded Alarm.

**Initial Alarm**

- 0 Special Call Other Than Engine Only—No Chief.
- 1 Box (Street or Class 3).
- 5 Special Call Engine Only—No Chief.
- 9 Special Call (Chief Operated).
- B Still.

**Highest Alarm**

- 0 Initial Alarm.
- 1 More than the Initial Alarm & less than 3 Engines & 2 Ladder Co. at work.
- 2 2nd Alarm.
- 3 3rd Alarm.
- 4 4th Alarm.
- 5 5th Alarm.
- 6 Simultaneous.
- 7 Signal 7-5.

**How Extinguished**

- 0 Before Arrival.
- 1 Hand Extinguishers.
- 2 Sprinkler Heads (State Number).
- 3 Booster Stream.
- 4 Low Pressure Hydrant Stream.
- 5 One-1½" or larger hose line from a pumping unit or a standpipe outlet, regardless of line termination (Controlling Nozzle, Backsiphon, Staged Multi Vessel, Ladder Pipe, T/L, Foam Nozzle, etc.).
- 6 Two-1½" or larger hose lines as above.
- 7 Three-1½" or larger hose lines as above.
- 8 Four or more 1½" or larger hose lines as above.
- 9 Other (State How).

**Ignition Stage—Termination Stage**

- 2 Smolder Stage, before any flame.
- 3 Flame Stage.
- 0 Undetermined or not reported.

**EQUIPMENT INVOLVED IN IGNITION****Heating Systems**

- 11 Central heating unit.
- 12 Water heater.
- 13 Fixed, stationary local heating unit.
- 14 Indoor fireplace.
- 15 Portable local heating unit.
- 16 Chimney, gas vent flue.
- 17 Chimney connector, vent connector.
- 18 Heat transfer system.
- 19 Heating systems not classified above.
- 10 Heating system, undetermined.

**Cooking Equipment**

- 21 Fixed, stationary surface unit.
- 22 Fixed, stationary oven.
- 23 Fixed, stationary food warming appliance.
- 24 Deep fat fryer.
- 25 Portable cooking, warming unit.
- 26 Open fire grill.
- 27 Grease hood, duct.
- 29 Cooking equipment not classified above.
- 20 Cooking equipment, undetermined.

**Air Conditioning, Refrigeration Equipment**

- 31 Central air conditioning, refrigeration equipment.
- 32 Water cooling device, tower.
- 33 Fixed, stationary local refrigerator unit.
- 34 Fixed, stationary local air conditioning unit.
- 35 Portable air conditioning, refrigeration unit.
- 39 Air conditioning, refrigeration equipment not classified above.
- 30 Air conditioning, refrigeration equipment, undetermined.

**Electrical Distribution Equipment**

- 41 Fixed wiring.
- 42 Transformer, associated overcurrent or disconnect equipment.
- 43 Meter, meter box.
- 44 Power switch gear, overcurrent protection devices.
- 45 Switch, receptacle, outlet.
- 46 Lighting fixture, lampholder, ballast, sign.
- 47 Cord, plug.
- 48 Lamp, light bulb.
- 49 Electrical distribution equipment, not classified above.
- 40 Electrical distribution equipment, undetermined.

**Appliances, Equipment**

- 51 Television, radio, phonograph.
- 52 Dryer.
- 53 Washing machine.
- 54 Floor care equipment.
- 55 Separate motor, generator.
- 56 Hand tools.
- 57 Portable appliance designed to produce controlled heat.
- 58 Portable appliance designed not to produce heat.
- 59 Appliances, equipment not classified in 51 through 58.
- 50 Appliances, equipment, undetermined.

**Special Equipment**

- 61 Electronic equipment.
- 62 Vending machine, drinking fountain.
- 63 Office machine.
- 64 Biomedical equipment device.
- 65 Separate pump, compressor.
- 66 Combustion engine.
- 67 Conveyor.
- 68 Printing press.
- 69 Special equipment, not classified above.
- 60 Special equipment, undetermined.

**Processing equipment**

- 71 Furnace, oven, kiln.
- 72 Casting, molding, forging equipment.
- 73 Heat treating equipment.
- 74 Working, shaping machine.
- 75 Coating machine.
- 76 Painting equipment.
- 77 Chemical process equipment.
- 78 Waste recovery equipment.
- 79 Processing equipment, not classified above.
- 70 Processing equipment, undetermined.

**Service, Maintenance Equipment**

- 81 Incinerator.
- 82 Boring, brake.
- 83 Rectifier, charger.
- 84 Tarpot, tar kettle.
- 85 Arc, oil lamp.
- 86 Elevator.
- 87 Torches.
- 89 Service, maintenance equipment, not classified above.
- 80 Service, maintenance equipment, undetermined.

**Other Object, Exposure Fire**

- 91 Separate, removed exposure.
- 92 Separate, detached exposure.
- 93 Separate, adjoining exposure.
- 94 Attached, protected exposure.

**55 Attached, unprotected exposure.****96 Vehicle.****98 No equipment involved—****99 Other object, exposure fire not classified above.****90 Other object, exposure fire.****00 Equipment involved in ignition undetermined or not reported.****FORM OF HEAT OF IGNITION****Heat from Fuel-Fired, Fuel-Powered Object**

- 11 Spark, ember, flame escaping from gas fueled equipment.
- 12 Heat from gas fueled equipment.
- 13 Spark, ember, flame escaping from liquid fueled equipment.
- 14 Heat from liquid fueled equipment.
- 15 Spark, ember, flame escaping from solid fueled equipment.
- 16 Heat from solid fueled equipment.
- 17 Spark, ember, flame escaping from equipment: fuel not known.
- 18 Heat from equipment; fuel not known.
- 19 Heat from fuel-fired, fuel-powered object, not classified above.
- 10 Heat from fuel-fired, fuel-powered object, undetermined.

**Heat from Electrical Equipment Arcing, Overloaded**

- 21 Water caused short circuit arc.
- 22 Short circuit arc from mechanical damage.
- 23 Short circuit arc from defective, worn insulation.
- 24 Unspecified short circuit arc.
- 25 Arc from faulty contact, loose connection, broken conductor.
- 26 Arc, spark from operating equipment or switch.
- 27 Heat from overloaded equipment.
- 28 Fluorescent light ballast.
- 29 Heat from electrical equipment arcing overloaded, not classified above.
- 20 Heat from electrical equipment arcing, overloaded undetermined.

**Heat from Smoking Material**

- 31 Cigarette.
- 32 Cigar.
- 33 Pipe.
- 39 Heat from smoking material, not classified above.
- 30 Heat from smoking material, undetermined.

**Heat from Open Flame, Spark**

- 41 Cutting torch operation.
- 42 Welding torch operation.
- 43 Torch operation, other than cutting and welding.
- 44 Candle, taper.
- 45 Match.
- 46 Lighter.
- 47 Open fire.
- 48 Backfire from internal combustion engine.
- 49 Heat from open flame, spark, not classified above.
- 40 Heat from open flame, spark, undetermined.

**Heat from Hot Object**

- 51 Heat, spark from friction.
- 52 Molten, hot material.
- 53 Hot ember, ash.
- 54 Electric lamp.
- 55 Rekindle, reignition.
- 56 Heat from properly operating electrical equipment.
- 57 Heat from improperly operating electrical equipment.
- 59 Heat from hot object, not classified above.
- 50 Heat from hot object, undetermined.

**Heat from Explosive, Fireworks**

- 61 Explosive.
- 62 Blasting agent.
- 63 Fireworks.
- 64 Paper cap, party popper.
- 65 Model rocket, not amateur rocketry.
- 66 Incendiary device.
- 69 Heat from explosive, fireworks, not classified above.
- 60 Heat from explosive, fireworks, undetermined.

2

**Heat from Natural Source**

- 71 Sun's heat.
- 72 Spontaneous ignition chemical reaction.
- 73 Lightning discharge.
- 74 Static discharge.
- 79 Heat from natural source, not classified above.
- 80 Heat from natural source, undetermined.

**Heat Spreading from Another Hostile Fire (Exposure)**

- 81 Heat from direct flame, convection currents.
- 82 Radiated heat.
- 83 Heat from flying brand, ember, spark.
- 84 Conducted heat.
- 89 Heat spreading from another hostile fire, not classified above.
- 90 Heat spreading from another hostile fire, undetermined.

**Other Form of Heat of Ignition**

- 87 Multiple forms of heat of ignition.
- 88 Other form of heat of ignition.
- 00 Form of heat of ignition undetermined.

**TYPE OF MATERIAL IGNITED****Gas**

- 11 Natural gas.
- 12 LP city gas (LP and air mix).
- 13 Manufactured gas.
- 14 LP gas.
- 15 Anesthetic gas.
- 16 Acetylene.
- 17 Specialty gas other than anesthetic.
- 18 Gas not classified above.
- 19 Gas.

**Flammable, Combustible Liquid**

- 21 Class IA flammable liquid.
- 22 Class IB flammable liquid.
- 23 Gasoline.
- 24 Class IC flammable liquid.
- 25 Class II combustible liquid.
- 26 Class IIA combustible liquid.
- 27 Class IIB combustible liquid.
- 29 Flammable, combustible liquid, not classified above.
- 30 Flammable, combustible liquid, undetermined.

**Volatile Solid, Chemical**

- 31 Fat, grease (food).
- 32 Grease (nonfood).
- 33 Polish.
- 34 Adhesive, resin, lac.
- 35 Applied paint, varnish.
- 36 Combustible metal.
- 37 Solid chemical (specific type).
- 38 Radioactive material.
- 39 Volatile solid, chemical, not classified above.
- 40 Volatile solid, chemical, undetermined.

**Plastic**

- 41 Polyurethane.
- 42 Polystyrene.
- 43 Polyvinyl.
- 44 Polyacrylic.
- 45 Polyester.
- 46 Polyolefin.
- 49 Plastic, not classified above.
- 40 Plastic, undetermined.

**Natural Product**

- 51 Rubber.
- 52 Cork.
- 53 Leather.
- 54 Crops, leaves, hay, straw.
- 55 Grain, natural fiber.
- 56 Coal, coke, briquettes, peat.
- 57 Food starch.
- 58 Tobacco.
- 59 Natural product, not classified above.
- 60 Natural product, undetermined.

**Wood, Paper**

- 61 Growing wood.
- 62 Felled but unsawn wood.
- 63 Sawn wood.
- 64 Wood shavings.
- 65 Hardboard, plywood.
- 66 Fiberboard (low density material), wood pulp.
- 67 Paper, untreated, uncoated.
- 68 Cardboard.
- 69 Wood, paper, not classified above.
- 60 Wood, paper, undetermined.

**Fabric, Textile, Fur**

- 71 Man-made fabric, fiber, finished goods.
- 72 Cotton, rayon, cotton fabric, finished goods.
- 73 Wool, wool mixture fabric, finished goods.
- 74 Fur, silk, other fabric, finished goods.
- 75 Wig.
- 76 Human hair.
- 79 Fabric, textile, fur, not classified above.
- 70 Fabric, textile, fur, undetermined.

**Material Compounded with Oil**

- 81 Linoleum.
- 82 Oil cloth.
- 83 Treated and/or coated paper.
- 84 Waterproof canvas.
- 85 Dry rags.
- 86 Asphalt treated material.
- 89 Material compounded with oil, not classified above.
- 80 Material compounded with oil, undetermined.

**Other Type of Material Ignited**

- 97 Multiple types of material first ignited.
- 98 Type of material not applicable.
- 99 Type of material not classified above.
- 00 Type of material undetermined or not reported.

**FORM OF MATERIAL IGNITED****Structural Component, Finish**

- 11 Exterior roof covering, surface, finish.
- 12 Exterior sidewall covering, surface, finish.
- 13 Exterior trim, appurtenances.
- 14 Floor covering, surface.
- 15 Interior wall covering, surface items permanently affixed to wall and door surface.
- 16 Ceiling covering, surface.
- 17 Structural member, framing.
- 18 Thermal, acoustical insulation within wall, partition, or floor/ceiling space.
- 19 Structural component, finish, not classified above.
- 20 Structural component, finish, undetermined.

**Furniture**

- 21 Upholstered sofa, chair, vehicle seats.
- 22 Nonupholstered chair, bench.
- 23 Cabinetry.
- 24 Ironing board.
- 25 Appliance housing or casing.
- 29 Furniture not classified above.
- 20 Furniture, undetermined.

**Soft Goods, Wearing Apparel**

- 31 Mattress, pillow.
- 32 Bedding, blanket, sheet, comforter.
- 33 Linen, other than bedding.
- 34 Wearing apparel not on a person.
- 35 Wearing apparel on a person.
- 36 Curtain, blind, drapery, tapestry.
- 37 Goods not made up.
- 38 Luggage.
- 39 Soft goods, wearing apparel, not classified above.
- 40 Soft goods, wearing apparel, undetermined.

**Adornment, Recreational Material**

- 41 Christmas tree.
- 42 Decoration for special event.
- 43 Book.
- 44 Magazine, newspaper, writing paper.

**Toy, game**

- 46 Awning, canopy.
- 47 Tarpaulin, tent.
- 49 Adornment, recreational material, not classified above.
- 40 Adornment, recreational material, undetermined.

**Supplies, Stock**

- 51 Box, carton, bag.
- 52 Basket, barrel.
- 53 Pallet, skid (not in use).
- 54 Rope, cord, twine, yarn.
- 55 Packing, wrapping material.
- 56 Bale storage.
- 57 Bulk storage.
- 58 Cleaning supplies.
- 59 Supplies, stock not classified above.
- 50 Supplies, stock, undetermined.

**Power Transfer Equipment, Fuel**

- 61 Electrical wire, cable insulation.
- 62 Transformer.
- 63 Conveyor belt, drive belt, V belt.
- 64 Tire.
- 65 Fuel.
- 69 Power transfer equipment, fuel, not classified above.
- 60 Power transfer equipment, fuel, undetermined.

**General Form**

- 71 Agricultural product.
- 72 Fence, pole.
- 73 Fertilizer.
- 74 Growing, living form.
- 75 Rubbish, trash, waste.
- 76 Cooking materials.
- 77 Sign.

**Special Form**

- 81 Dust, fiber, lint.
- 82 Pyrotechnics, explosives.
- 83 Atomized, vaporized liquid.
- 84 Gas.
- 85 Palletized material, material stored on pallets.
- 86 Gas or liquid in or from pipe or container.
- 87 Rolled material.
- 88 Adhesive.

**Other Form of Material**

- 87 Multiple form of material ignited.
- 98 Form of material not applicable.
- 99 Form of material not classified above.
- 00 Form of material undetermined or not reported.

**IGNITION FACTOR****Incendiary**

- 11 Incendiary, not during civil disturbance.
- 12 Incendiary, during civil disturbance.

**Suspicious**

- 21 Suspicious, not during civil disturbance.
- 22 Suspicious, during civil disturbance.

**Misuse of Heat of Ignition**

- 31 Abandoned, discarded material.
- 32 Thawing.
- 33 Falling asleep.
- 34 Inadequate control of open fire.
- 35 Cutting, welding too close to.
- 36 Children with, child playing.
- 37 Unconscious, mental, physical impairment.
- 38 Misuse of heat of ignition not classified above.
- 30 Misuse of heat of ignition, undetermined.

**Misuse of Material Ignited**

- 41 Fuel spilled, released accidentally.
- 42 Improper fueling techniques.
- 43 Flammable liquid used to kindle fire.
- 44 Washing part, cleaning, refinishing, painting.
- 45 Improper container.
- 46 Combustible too close to heat.
- 47 Improper storage.
- 48 Children with, child playing.
- 49 Misuse of material ignited not classified above.
- 40 Misuse of material ignited, undetermined.

**Mechanical Failure, Malfunction**

- 51 Part failure, leak, break.
- 52 Automatic control failure.
- 53 Manual control failure.
- 54 Short circuit, ground fault.
- 55 Other electrical failure.
- 56 Lack of maintenance, worn out.
- 57 Backfire.
- 59 Mechanical failure, malfunction not classified above.
- 50 Mechanical failure, malfunction, undetermined.

**Design, Construction, Installation Deficiency**

- 61 Design deficiency.
- 62 Construction deficiency.
- 63 Installed too close to combustibles.
- 64 Other installation deficiency.
- 65 Property too close to.
- 69 Design, construction, installation deficiency not classified above.
- 60 Design, construction, installation deficiency, undetermined.

**Operational Deficiency**

- 71 Collision, overturn, knockdown.
- 72 Accidentally turned on, not turned off.
- 73 Unattended.
- 74 Overloaded.
- 75 Spontaneous heating.
- 76 Improper startup, shutdown procedures.
- 79 Operational deficiency not classified above.
- 70 Operational deficiency, undetermined.

**Natural Condition**

- 81 High wind.
- 82 Earthquake.
- 83 High water, including floods.
- 84 Lightning.
- 89 Natural condition not classified above.
- 80 Natural condition, undetermined.

**Other Ignition Factor**

- 91 Animal.
- 92 Rekindled from a previous fire.
- 99 Other ignition factor not classified above.
- 00 Ignition factor undetermined or not reported.

**Construction Class**

- 0 No Building Involved.
- 1 Fireproof Structure.
- 2 Fire Protected Structure.
- 3 Non-fireproof Structure.
- 4 Wood Frame Structure.
- 5 Metal Structure.
- 6 Heavy Timber Structure.

**Classification of Building By Use—Commercial**

- 01 Bank.
- 02 Brewery.
- 03 Coal Pocket.
- 04 Department Store.
- 05 Electrical Power Plant.
- 06 Factory: Multi Occupancy.
- 07 Factory: Single Occupancy.
- 08 Foundry.
- 09 Freight Depot.
- 10 Garage: Non-Storage.
- 11 Garage: Storage.
- 12 Gas Works.
- 13 Lumber Yard.
- 14 Motor Vehicle Repair Shop.
- 15 Office Building.
- 16 Oil Selling Station.
- 17 Oil Storage Plant.
- 18 Pier, Wharve, Dock, Bulkhead Building.
- 19 Restaurant, diner.
- 20 Shed, Newsstand, Shanty.
- 21 Shipyard, Drydock.
- 22 Stable.
- 23 Steam Generating Plant.
- 24 Store Building, Taxpayer.
- 25 Warehouse, Storehouse.
- 26 Store Building & Private Dwelling.
- 39 Other Commercial.

**Classification of Building By Use—Public**

- 40 Airport Building.
- 41 Asylum.
- 42 Bridge.
- 43 Bus Terminal.
- 44 Church, Synagogue.
- 45 Dance Hall, Banquet Hall.
- 46 Dispensary, Clinic.
- 47 Ferry Terminal.

**Government Buildings—(Not otherwise classified):**

- 48 City.
- 49 Interstate.
- 50 Federal.
- 51 Foreign.
- 52 State.
- 53 Hospital, Infirmary.
- 54 Nursing Home.
- 55 Railroad Station.
- 56 School: College, University.
- 57 School: Private High.
- 58 School: Public High.
- 59 School: Public Jr. High.
- 60 School: Private Elementary.
- 61 School: Public Elementary.
- 62 School: Children's Nursery.
- 63 School: Other.
- 64 Television Studio.
- 65 Theatre, Legitimate.
- 66 Theatre, Motion Picture.
- 67 Transit System—Station Structure.
- 68 Tunnel.
- 69 Other Public.

**Residential**

- 80 Apartment Hotel "A."
- 81 Apartment House "A."
- 82 Boarding House, Rooming House "B."
- 83 Convent, Rectory, Monastery, etc.
- 84 Dormitory—School, Club, Lodge.
- 85 Hotel "B."
- 86 Lodging House "B."
- 87 Motel.
- 88 Private Dwelling: One Family.
- 89 Private Dwelling: Two Family.
- 90 Tenement: New Law "A."
- 91 Tenement: Old Law "A."
- 92 Converted Dwelling "A."
- 99 Other Residential.

**Building Status**

- 1 Occupied.
- 2 Partly Occupied, Good Condition.
- 3 Partly Occupied, Deteriorating.
- 4 Vacant.
- 5 Under Demolition.
- 6 Under Construction.

**Damage to Building or Contents**

- 0 None.
- 1 1 to 15%.
- 2 16 to 49%.
- 3 50% or Greater.

**Area Fire Origin—Floor**

- 00 Outside Building.
- 01 1st Floor.
- to
- 94 94th and Higher.
- 95 Attic.
- 96 Roof.
- 97 Basement.
- 98 Cellar.
- 99 Sub-cellar.

**Area Fire Origin—Room or Area**

- 10 Area Not in Building.
- 11 Attic.
- 12 Awning.
- 13 Balcony.
- 14 Basement.

- 15 Bathroom Toilet.
- 16 Bedroom, Sleeping Area.
- 17 Ceiling.
- 18 Cellar.
- 19 Chimney.
- 20 Classroom Lecture Area.
- 21 Closet.
- 22 Cockloft.
- 23 Court—Exterior.
- 24 Court—Interior.
- 25 Dining Room, Dining Area.
- 26 Duct—Air Conditioning.
- 27 Duct—Exhaust.
- 28 Flooring.
- 29 Furnace Room.
- 30 Hallway—Private.
- 31 Hallway—Public.
- 32 Incinerator Closet or Room.
- 33 Kitchen, Cooking Area.
- 34 Living Room.
- 35 Lobby.
- 36 Machinery Room.
- 37 Office Area.
- 38 Operating Laboratory Area.
- 39 Partition.
- 40 Porch.
- 41 Projection Booth.
- 42 Recreation Area.
- 43 Roof.
- 44 Sales Showroom Display Area.
- 45 Shaft—Duct, Pipe.
- 46 Shaft—Dumbwaiter.
- 47 Shaft—Elevator.
- 48 Shaft—Exterior Light.
- 49 Shaft—Interior Light.
- 50 Shaft—Vent.
- 51 Shipping Receiving Loading Area.
- 52 Stage.
- 53 Stairway.
- 54 Storage Room Area.
- 55 Vacant—Room, Apartment or Area.
- 56 Work Area, Workroom.
- 57 Other Areas, Not Classified (state area).

**Area Fire Origin—Occupancy Classification—Commercial****Factory:**

- 99 Chemicals.

**Clothing:**

- 01 Dresses.
- 02 Undergarment.
- 03 Other (state type).
- 04 Dry Cleaning Laundry.
- 05 Electrical Products.
- 06 Food & Drink Products.
- 07 Furniture.
- 08 Furs, Fur Goods.

**Hats:**

- 09 Men's.
- 10 Women's.
- 11 Leather, Leather Products.
- 12 Machine Shop Metal Works.
- 13 Paints.
- 14 Paper Products.
- 15 Petroleum Products.
- 16 Plastics, Rubber.
- 17 Printing & Allied Industries.
- 18 Shoes.
- 19 Textiles.
- 20 Toy or Doll.
- 21 Woodworking.
- 22 Other Factories Not Classified (state type).

**Store:**

- 23 Auto Accessories.
- 24 Bakery.
- 25 Butcher.



4

**Area Fire Origin—Occupancy Classification—**  
(continued)**Store:**

- 26 Candy, Cigar, Stationery.
- 27 Clothing.
- 28 Department, Large.
- 29 Department, Small (5&10).
- 30 Dry Cleaner & Tailor.
- 31 Drug.
- 32 Electrical Appliances.
- 33 Fruit & Vegetables.
- 34 Furniture.
- 35 Grocery, Dairy, Delicatessen.
- 36 Haberdashery.
- 37 Ladies Accessories.
- 38 Laundry.
- 39 Paint Hardware.
- 40 Restaurant Luncheonette.
- 41 Shoe.
- 42 Shoe Repair.
- 43 Super Market.
- 44 Tavern.
- 45 Other Stores Not Classified (state type).

**Garages:**

- 46 Non Storage.
- 47 Storage.
- 48 Oil Selling Station.
- 49 Motor Vehicle Repair Shop.
- 50 Office Building.

**Warehouse:**

- 51 Film.
- 52 Paper, Rags, Fibre.
- 53 Other (state type).
- 54 Freight Depot.
- 55 Pier.
- 56 Shipyard.
- 57 Lumber Yard.
- 58 Shed, Newsstand, Shanty, etc.
- 59 Other Commercial Building Occupancies. Not Classified (state type).

**Residential**

- 60 Apartment Hotel, Multiple Dwelling "A."
- 61 Apartment House, Multiple Dwelling "A."
- 62 Boarding House, Rooming House, Multiple Dwelling "B."
- 63 Hotel, Multiple Dwelling "B."
- 64 Lodging House, Multiple Dwelling "B."
- 65 Private Dwelling.
- 66 Rectory, Convent, Monastery, etc.
- 67 Tenement House, New Law, Multiple Dwelling "A."
- 68 Tenement House, Old Law, Multiple Dwelling "A."
- 69 Other Residential, Not Classified (state type)

**Public**

- 70 Airport.
- 71 Cabaret, Banquet Hall.
- 72 Church.
- 73 Dance Hall.
- 74 Hospital.
- 75 Motion Picture Theatre.
- 76 N.Y. Transit System—Station.
- 77 Passenger Depot.

- 78 School.
- 79 Theatre.
- 80 T.V. Studio.
- 81 Other Public, Not Classified (state type).

**Manner Extension**

- 00 Confined to area of origin.
- 01 Cockloft.
- 02 Door or Opening Between Rooms.
- 03 Floor.
- 04 Hall Stairway.
- 05 Partition.
- 06 Pipe Recess.
- 07 Shaft-Dumbwaiter.
- 08 Shaft—Elevator.
- 09 Shaft—Air, Light, Chute, Duct, etc.
- 10 Ceiling.
- 11 Window.
- 12 Other (state how).

**Number of Occupancies**

- 01 1 Occupancy.
- 02 2 Occupancies.
- 99 99 or more Occupancies.

**Buildings**

- 0 did not spread beyond building of origin.
- 1 1 structure or vehicle.
- 9 9 or more buildings or vehicles.

Note: Form BF-24A must be submitted for each building or vehicle listed in this coded space.

**Smoke Detector**

- 0 No detector present.
- 1 Ionization type, power disconnected or battery removed by occupant.
- 2 Ionization type, provided early warning.
- 3 Ionization type, failed to operate, battery powered.
- 4 Ionization type, failed to operate, line voltage power.
- 5 Photoelectric type, power disconnected or battery removed by occupant.
- 6 Photoelectric type, provided early warning.
- 7 Photoelectric type, failed to operate, battery powered.
- 8 Photoelectric type, failed to operate, line voltage power.
- 9 Not possible to determine if detector operated or not.

**Classification by Type Fire or Emergency****Transportation Fires**

- 87 Ship, Vessel.
- 88 Motor Vehicle.
- 89 Other Transportation (state type).

**Non-Structural Fires**

- 86 ADV (Abandoned/Derelict Motor Vehicle).
- 90 Bonfire.
- 91 Brush, Grass.
- 92 Demolition Wood, Building Site.
- 93 Dump, Land Fill.
- 94 Rubbish—Outside Building.

- 95 Manhole.
- 96 N.Y. Transit System—Yard, Roadway, Ties, etc.
- 97 Railroad—Yard Roadway, Ties, etc.
- 98 Tunnel, Bridge.
- 99 Other Non-Structural, Not Classified (state type).

**Emergency**

- 02 Chimney.
- 03 Elevator, Escalator.
- 04 Explosives Escort.
- 05 First Aid—Assist Person(s).
- 06 First Aid—Resuscitation.
- 07 Marine.
- 08 Precarious Condition—Signs, Trees, etc.
- 09 Subway—Railroad.
- 10 Water Leak.
- 11 Bomb—Unexploded, Scare.
- 12 Collapse—Cave In.
- 13 Collision—Vehicular Incident.
- 14 Controlled Fire, Permitted.
- 15 Flood Condition—Broken Water Main.
- 16 Incinerator.
- 17 Leak—Fuel Oil, Gasoline, etc..
- 18 Leak—Hm. Gas, Flam. Vapor.
- 19 Lightning.
- 20 Oil Burner.
- 21 Person Locked In, Locked Out.
- 22 Power—Electrical.
- 23 Pressure Rupture.
- 24 Refrigerant Leak.
- 25 Smoke Condition, Odor, Fumes.
- 26 Sprinkler.
- 27 Steam Discharge.
- 28 Defective Alarm Device (other than Sprinkler).
- 29 Smoke Detector.
- 30 Other.

**Power for Equipment**

- 01 1-23 volts A.C.
- 02 24 volts A.C.
- 11 1-6 volts D.C.
- 12 7-12 volts D.C.
- 15 115 volts A.C.
- 28 208 volts A.C.
- 30 220-230 volts A.C.
- 33 231-330 volts A.C.
- 34 331 or higher volts AC.
- 50 25-50 volts A.C.
- 61 Butane.
- 62 Coal, Coke, Charcoal, Peat.
- 63 Fuel Oil, No. 1 or No. 2.
- 64 Fuel Oil, No. 3 or No. 4.
- 65 Fuel Oil, No. 5 or No. 6.
- 66 Gasoline.
- 67 Kerosene.
- 68 LN gas (stored as liquid).
- 69 LP gas (stored as liquid).
- 70 Natural or illuminating gas (as a gas).
- 71 Paper.
- 72 Propane.
- 99 Other.

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## Appendix C

### EXPLANATION OF NUMERIC CODES FROM 1987 TO PRESENT

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**Explanation of Numeric Codes Used on Fire and Emergency Reports -**

**From June 1, 1987, to present**

MO2-1 H1-911260-5-R25-815

**14.1 TYPE OF REPORT****Code No.**

- 1 Structural
- 2 Transportation Fire
- 3 Non-Structural Fire
- 4 Emergency Response
- 5 False Alarm
- 6 Additional data (B.F.24A)

**14.2 HOW REPORTED****Code No.**

- 10 Telephone
- 20 Street — Manual
- 21 Class 3 — Manual
- 30 Glass 3 — P.F.A.
- 31 Glass 3 Valve, Sprinkler — P.F.A.
- 32 Glass 3, Other Automatic — P.F.A.
- 40
- 50 Verbal
- 60 Pre-Recorded Telephone Alarm
- 70 Tie Line (Direct Line to Dispatcher — Pipeline Corp.)
- 80 Street Box — ERS
- 81 Glass 3 — ERS
- 90 Cable Television Link

Note: 1. P.F.A. stands for Private Fire Alarm. These are received using the 3-Box-Terminat Designation.

2. If the alarm was encountered while responding to or returning from another alarm, it is considered a verbal alarm.

3. A pre-recorded telephone alarm (PRTA) is used to designate those telephone alarms received from recording or pre-dialed machines, whether directly to 911, 7-digit telephone or an alarm service.

**14.3 INITIAL ALARM****Code No.**

- 0 Special Call Other Than Engine Only — No Chief
- 1 Box (Street or Class 3)
- 5 Special Call Engine Only — No Chief
- 6 Special Call (Chief Operated)
- 9 Still

**14.4 HIGHEST ALARM****Code No.**

- 0 Initial Alarm
- 1 More than the Initial Alarm & Less than 3 Engines & 2 Ladder Cos. at work.
- 2 2nd Alarm
- 3 3rd Alarm
- 4 4th Alarm
- 5 5th Alarm
- 6 Simultaneous
- 7 Signal 7-5

**14.5 BOROUGHS****Code No.**

- 1 Manhattan
- 2 Bronx
- 3 Staten Island
- 4 Brooklyn
- 5 Queens

**14.6 HAZARDOUS MATERIALS**

14.6.1 Class to be obtained from D.O.T. required labels or placard or from shipping papers or other documents.

**Code No.**

- 00 No Hazardous Materials Involved
- 11 Class A Explosives
- 12 Class B Explosives
- 13 Class C Explosives
- 15 Blasting Agents
- 21 Flammable Gases
- 22 Non-Flammable Gases
- 23 Poison Gases
- 24 Chlorine
- 25 Oxygen

**FIRE RECORD CODE LIST**

- 31 Flammable Liquids, flashpoint 100 degrees or less.
- 33 Combustible Liquids, flashpoint greater than 100 degrees.
- 41 Flammable Solids
- 42 Spontaneously Combustible Materials
- 43 Materials Dangerous when Wet
- 51 Oxidizers
- 52 Organic Peroxides
- 61 Poisons
- 62 Etiologic (Infectious) Substances
- 63 Irritants
- 71 Radioactive I Materials
- 72 Radioactive II Materials
- 73 Radioactive III Materials
- 81 Corrosives
- 98 Multiple Classes (More than one hazardous material)
- 99 Other

14.6.2 Amount & Unit — the letter designating the unit of measurement shall follow the two digits indicating the amount. Example: 3000 gals. of gasoline would be correctly coded as 07G in the "Amount" field.

000 No Hazardous Material Involved

- 01 Less than 1 F Cubic feet, for gases only
- 02 1-9 G Gallon
- 03 10-49 M Multiple Units — Ex: a spill involves a liquid and a solid P Pound T Ton

05 100-499

06 500-999

07 1,000-4,999

08 5,000-9,999

09 10,000-49,999

10 50,000-99,999

11 100,000 and more

**14.7 HEATING EQUIPMENT INVOLVED—  
TYPE OF FUEL USED****Code No.**

1. Kerosene
2. L.P.G.
3. Electric
4. Wood
5. Coal
6. Oil
7. Natural Gas
8. Gasoline
9. Other
0. No Heating Equipment Involved

**14.8 HOW EXTINGUISHED****Code No.**

0. Before Arrival
1. Hand Extinguishers
2. Sprinkler Heads (State Number of heads that operated in Operations Section)
3. Booster Stream
4. Low Pressure Hydrant Stream
5. One 1½" or larger hoseline from a pumping unit or a standpipe outlet, regardless of line termination (Controlling Nozzle, Deckpipe, Stang, Multi Versal, Ladder Pipe, T/L, Foam Nozzle, etc.)
6. Two 1½" or larger hoselines as above.
7. Three 1½" or larger hoselines as above.
8. Four or more 1½" or larger hoselines as above.
9. Other (State How).

14.9 SPRINKLER PERFORMANCE—If sprinklers were present or a factor in this operation, record their performance.

1. Equipment Operated
2. Equipment in service, did not operate
3. Equipment present, fire too small to operate
4. Equipment operated, did not extinguish fire
5. No equipment present
9. Equipment present, not in service. (Record action taken in Operations Section)

14.10 STANDPIPE PERFORMANCE—If a standpipe system was present or used in this operation, record its performance.

1. Standpipe serviceable and used

2. Standpipe present but not used
5. No standpipe present
9. Equipment present, not in service. (Record action taken in Operations Section)

**14.11 CONDITION ON ARRIVAL CODES**

- 0 No indication of fire
- 1 Overheat
- 2 Smoldering
- 3 Open Flame
- 8 Out on Arrival

**14.12 EQUIPMENT INVOLVED IN IGNITION****1. HEATING SYSTEMS**

10. Solar panel.
11. Central heating unit, furnace
12. Water heater.
13. Woodstove, wall furnaces, fixed local heating unit
14. Indoor fireplace
15. Portable heating unit
16. Chimney, gas vent flue
17. Chimney vent connector
18. Heat transfer system, ducts, pipes.
19. Not classified above.

**2. COOKING EQUIPMENT**

21. Fixed, stationary surface unit, stove
22. Fixed, stationary oven
23. Fixed, stationary food warming appliance.
24. Deep fat fryer
25. Portable cooking, warming unit
26. Open fired grill
27. Grease hood, duct.
29. Not classified above

**3. AIR CONDITIONING, REFRIGERATION EQUIPMENT**

31. Central air conditioning, refrigeration equipment
32. Water Cooling device, tower
33. Cold boxes, freezers, refrigerators.
34. Fixed, stationary local air conditioning unit
35. Portable air conditioning, refrigeration unit, dehumidifier.
39. Not classified above.

**4. ELECTRICAL DISTRIBUTION EQUIPMENT**

41. Fixed Wiring, power lines, junction boxes.
42. Transformer, overcurrent or disconnect equipment.
43. Meter, meter box.
44. Power Switch gear, fused, circuit breakers.
45. Switch, receptacle outlet.
46. Lighting fixture, lamp-holder ballast, sign.
47. Cord, plug
48. Lamp, light bulb.
49. Not classified above.

**5. APPLIANCES EQUIPMENT**

50. Dishwasher.
51. Television, radio, sound or picture.
52. Clothes dryers.
53. Washing machine.
54. Floor care equipment, vacuum.
55. Separate motor, generator.
56. Hand tools, soldering irons, drills.
57. Controlled heat appliance, electrical blankets, steam irons, heat tapes.
58. Electrical razors, can openers.
59. Not classified above.

**6. SPECIAL EQUIPMENT**

61. Electronic equipment, radar, x-rays, computer, telephone, transmitter equipment.
62. Vending machine, drinking fountain.
63. Office machines.
64. Biomedical equipment, device.
65. Separate pump, compressor, sump pump.
66. Internal combustion engine.
67. Conveyor
68. Printing press.
69. Not classified above.



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**7. PROCESSING EQUIPMENT**

- 71. Furnace, oven, kiln.
- 72. Casting, molding, forging.
- 73. Heat treating, quench tank.
- 74. Working, shaping, machine saws, grinders, sanders, etc.
- 75. Coating machine, asphalt saturating, rubber spreading machines.
- 76. Painting, dipping, spraying.
- 77. Chemical process, distilling.
- 78. Waste recovery.
- 79. Not classified above.

**8. SERVICE, MAINTENANCE EQUIPMENT**

- 81. Incinerator.
- 82. Bearing, brake.
- 83. Rectifier, charger, battery.
- 84. Tarpot, tar kettle.
- 85. Arc, oil lamp, gas mantles.
- 86. Elevator.
- 87. Torches, bunsen burners.
- 88. Not classified above.

**9. OTHER OBJECTS, EXPOSURE FIRE**

- 96. Vehicle, exhaust systems, vehicle parts.
- 98. No equipment involved.
- 99. Other object, Exposure Fire not classified above.

**14.13 FORM OF HEAT IGNITION**

- 1. **HEAT FROM FUEL-FIRED, FUEL-POWERED OBJECT**  
The difference between subdivision 11 and subdivision 12 is whether a spark, ember or flame actually escaped from the equipment, or whether it was simply overheating of outside surface of the equipment (or its internal heat) causing the ignition of nearby combustibles.

- 11. Spark, ember, flame escaping from gas fueled equipment.
- 12. Heat from gas fueled equipment, pilot lights, normal flames.
- 13. Spark, ember, flame escaping from liquid fueled equipment.
- 14. Heat from liquid fueled equipment, pilot lights.
- 15. Spark, ember, flame escaping from solid fueled equipment.
- 16. Heat from solid fueled equipment.
- 17. Spark, ember, flame escaping from equipment, fuel not known.
- 18. Heat from equipment; fuel not known.
- 19. Not classified above.

**2. HEAT FROM ELECTRICAL EQUIPMENT ARCING, OVERLOADED.**

- 21. Water caused short circuit arc.
- 22. Short circuit arc from mechanical damage.
- 23. Short circuit arc from defective, worn insulation.
- 24. Unspecified short circuit arc.
- 25. Arc from faulty contact, loose connection, broken conductor.
- 26. Arc, spark from operating equipment or switch.
- 27. Heat from overloaded equipment, wires, motors.
- 28. Fluorescent light ballast.
- 29. Not classified above.

**3. HEAT FROM SMOKING MATERIAL**

- 31. Cigarette.
- 32. Cigar.
- 33. Pipe.
- 39. Not classified above.

**4. HEAT FROM OPEN FLAME, SPARK**

- 41. Cutting torch operation (separating metals).
- 42. Welding torch operation (joining metals).
- 43. Blow torches, plumbers torches, Bunsen Burners, soldering, paint stripping.
- 44. Candle, taper.
- 45. Match.
- 46. Lighter (flame type).
- 47. Campfires, bonfires, warming fires, rubbish fires.
- 48. Backfire from internal combustion engine.
- 49. Not classified above.

**5. HEAT FROM HOT OBJECT**

- 51. Heat, spark from friction, overheated tires.
- 52. Molten metal, hot forging and hot glass.
- 53. Hot ember, ash.
- 54. Electric lamp, light bulbs.
- 55. Rekindle, reignition.
- 56. Heat from properly operating electrical.
- 57. Heat from improperly operating electrical equipment.
- 59. Not classified above.

**6. HEAT FROM EXPLOSIVES, FIREWORKS**

- 61. Explosives, bombs, ammunition.
- 62. Blasting agent.
- 63. Fireworks, sparklers.
- 64. Paper cap, party popper.
- 65. Model rocket, not amateur rocketry.
- 66. Incendiary device.
- 67. Not classified above.

**7. HEAT FROM NATURAL SOURCE**

- 71. Sun's heat.
- 72. Spontaneous ignition, chemical reaction.
- 73. Lightning discharge.
- 74. Static discharge.
- 79. Not classified above.

**8. HEAT SPREADING FROM ANOTHER HOSTILE FIRE (EXPOSURE)**

- 81. Heat from direct flame, convection currents.
- 82. Radiated heat.
- 83. Heat from flying brand, ember, spark.
- 84. Conducted heat.
- 89. Not classified above.

**9. OTHER FORM OF HEAT OF IGNITION**

- 97. Multiple forms of heat of ignition.
- 99. Not classified above.

**14.14 TYPE OF MATERIAL IGNITED****1. GAS**

- 11. Natural gas.
- 12. LP-City Gas (LP and air mix).
- 13. Manufactured gas.
- 14. LP-Gas.
- 15. Anesthetic gas.
- 16. Acetylene.
- 17. Specialty gas other than anesthetic.
- 19. Not classified above.

**2. FLAMMABLE, COMBUSTIBLE LIQUID**

- 21. Ethyl ether, pentane and ethylene oxide (Class 1A).
- 22. Acetone, ethyl alcohol, JP-4 jet fuel and methyl ethyl ketone, (Class 1B).
- 23. Gasoline.
- 24. Butyl alcohol, propyl alcohol styrene and turpentine, (Class 1C).
- 25. Kerosene, Fuel Oil 1, 2, 4, 5 and Diesel Fuel.
- 26. No. 6 fuel oil, cottonseed oil and creosote oil, (Class 1IA).
- 27. Cooking oil, transformer and lubricating oil, (Class 1IB).
- 28. Not classified above.

**3. VOLATILE SOLID, CHEMICAL**

- 31. Fat, grease (food).
- 32. Grease (nonfood), petroleum jellies.
- 33. Polish, paraffin, wax.
- 34. Creosote, pitch, adhesive, resin, tar, gelatin, rosin, asphalt.
- 35. Applied paint, varnish.
- 36. Combustible metal magnesium titanium and zirconium.
- 37. Solid chemical, explosives.
- 38. Radioactive material.
- 39. Not classified above.

**4. PLASTIC****41. RIGID PLASTICS**

- Included are molded plastics such as appliance cases, floor tile, decorative kitchen laminates.

- 42. **RIGID FOAM PLASTICS**  
Included are rigid thermal foam insulation for walls and refrigerators.

**43. FLEXIBLE PLASTICS**

- Included is electrical wire insulation.

**44. FLEXIBLE FOAM/PLASTICS**

- Included are mattresses, furniture interior foam and carpet pads.

**45. FILM PLASTICS**

- Included are polyethylene trash bags, photographic film and coated wallpaper.

- 49. Plastic not classified above.

**5. NATURAL PRODUCTS**

- 51. Rubber.
- 52. Cork.
- 53. Leather.
- 54. Grass, leaves, hay and straw.
- 55. Grain, feathers, felt, kapok, hemp, jute, cotton, before processing.
- 56. Coal, coke, briquettes, peat.
- 57. Food, starch, excluding fat and grease.
- 58. Tobacco.
- 59. Not classified above.

**6. WOOD, PAPER**

- 61. Growing wood, tree.
- 62. Felled but unseason wood.
- 63. Finished lumber, finished wood.
- 64. Wood shavings, sawdust excelsior.
- 65. Hardboard, plywood.
- 66. Fiberboard, wood pulp, press board.
- 67. Paper, untreated, uncoated.
- 68. Cardboard.
- 69. Not classified above.

**7. FABRIC, TEXTILE, FUR**

- 71. Man-made fabric, fiber, finished goods.
- 72. Cotton, rayon, cotton fabric.
- 73. Wool, wool mixture, fabric.
- 74. Fur, silk, other fabric.
- 75. Wig.
- 76. Human hair.
- 79. Not classified above.

**8. MATERIAL COMPOUNDED WITH OIL**

- 81. Linoleum.
- 82. Oil cloth.
- 83. Treated and/or coated paper, wax paper.
- 84. Waterproof canvas.
- 85. Oily rags.
- 86. Asphalt treated material.
- 89. Not classified above.

**9. OTHER TYPE OF MATERIAL IGNITED**

- 97. Multiple types of material first ignited.
- 99. Not classified above.

**14.15 FORM OF MATERIAL IGNITED****1. STRUCTURAL COMPONENT, FINISH**

- 11. Exterior roof covering, surface, finish.
- 12. Exterior sidewall, covering surface, finish, eaves.
- 13. Doors, porches and platforms.
- 14. Tile, carpet, rug flooring and stairs.
- 15. Interior wall covering.
- 16. Ceiling covering surface.
- 17. Structural member, framing.
- 18. Thermal, acoustical insulation, within wall or ceiling.
- 19. Not classified above.

**2. FURNITURE**

- 21. Upholstered sofa, chair, vehicle seats.
- 22. Nonupholstered chair, bench.
- 23. Cabinetry, filing cabinets, pianos, dressers, desks, tables and bookcases.
- 24. Ironing board.
- 25. Appliance housing or casing.
- 29. Not classified above.

**3. SOFT GOODS, WEARING APPAREL**

- 31. Mattress, pillow.
- 32. Badding, blanket, sheet, comforter, heating pad.
- 33. Linen, towels, tablecloths.
- 34. Wearing apparel not on a person.
- 35. Wearing apparel on a person.
- 36. Curtain, blind, drapery, tapestry.
- 37. Fabrics, yard goods.
- 38. Luggage.
- 39. Not classified above.

**4. ADORNMENT, RECREATIONAL MATERIAL**

41. Christmas tree.
42. Decoration for special event.
43. Book.
44. Magazine, newspaper, writing paper, etc.
45. Toy, game.
46. Awning, canopy.
47. Tarpaulin, tent.
49. Not classified above.

**5. SUPPLIES, STOCK**

51. Box, carton, bag.
52. Basket, barrel.
53. Pallet, skid.
54. Rope, cord, twine, yarn.
55. Packing, wrapping material.
56. Bale storage.
57. Bulk storage.
58. Brooms, brushes, mops, cleaning cloths, cleaning supplies.
59. Not classified above.

**6. POWER TRANSFER EQUIPMENT, FUEL**

61. Electrical wire, cable insulation.
62. Transformer.
63. Conveyor belt, drive belt, v-belt.
64. Tire.
65. Fuel.
69. Not classified above.

**7. GENERAL FORM**

71. Agricultural product.
72. Fence, pole.
73. Fertilizer.
74. Forests, brush and grass.
75. Film, cassette, rubbish, trash, waste.
76. Cooking materials.
77. Sign.

**8. SPECIAL FORM**

81. Dust, fiber, lint, sawdust.
82. Pyrotechnics, explosives.
83. Atomized, vaporized liquid.
84. Chips.
85. Material stored on pallets.
86. Accelerants.
87. Rolled material.
88. Adhesive.

**9. OTHER FORM OF MATERIAL**

92. Multiple form of material ignited.
99. Not classified above.

**14.16 IGNITION FACTOR (CAUSE)****1. INCENDIARY**

11. Incendiary.
12. Incendiary, during civil disturbance.

**2. SUSPICIOUS**

21. Suspicious.
22. Suspicious, during civil disturbance.

**3. MISUSE OF HEAT OF IGNITION**

31. Abandoned, discarded material, cigarette, etc.
32. Thawing.
33. Falling asleep.
34. Inadequate control of open fire.
35. Cutting, welding too close to.
36. Children with matches, lighter, etc.
37. Unconscious, mental, physical impairment.
39. Not classified above.

**4. MISUSE OF MATERIAL IGNITED**

41. Fuel spilled, released accidentally.
42. Improper fueling technique.
43. Flammable liquid used to kindle fire.
44. Washing part, cleaning, refinishing, painting.
45. Improper container.
48. Combustible too close to heat.
47. Improper storage.
49. Not classified above.

**5. MECHANICAL FAILURE, MALFUNCTION**

51. Part failure, leak, break.
52. Automatic control failure.
54. Short circuit, ground fault.
55. Other electrical failure.
56. Lack of maintenance, worn out, failure to clean.
57. Backfire.
59. Not classified above.

**6. DESIGN, CONSTRUCTION, INSTALLATION DEFICIENCY**

61. Design deficiency, catalytic converter failure.
62. Construction deficiency.
63. Installed too close to combustibles.
64. Other installation deficiency.
65. Property too close to, included are exposure fires.
69. Not classified above.

**7. OPERATIONAL DEFICIENCY**

71. Collision, overturn, knockdown.
72. Accidentally turned on, not turned off.
73. Unattended.
74. Overloaded.
75. Spontaneous heating.
76. Improper startup, shutdown procedures.
79. Not classified above.

**8. NATURAL CONDITION**

81. High wind.
82. Earthquake.
83. High water, including floods.
84. Lightning.
89. Not classified above.

**9. OTHER IGNITION FACTORS**

91. Animal.
92. Rekindled from a previous fire.
99. Not classified above.
00. No Fire.

**14.17 JUVENILE INVOLVED IN IGNITION**

0. Juvenile Not Involved in Ignition or No information that a Juvenile was involved.
1. Juvenile Involved in Ignition.

**14.18 CONSTRUCTION CLASS****Code No.**

0. No building involved.
1. Fireproof Structure.
2. Fire Protected Structure.
3. Non Fireproof Structure.
4. Wood Frame Structure.
5. Metal Structure.
6. Heavy Timber Structure.

**14.19 CLASSIFICATION OF BUILDING BY USE****COMMERCIAL**

- 592 Bank.
- 723 Brewery.
- 895 Coal Storage.
- 581 Department Store.
- 615 Electrical Power Plant.
- 708 Factory: Multi-Occupancy.
- 709 Factory: Single Occupancy.
- 771 Foundry.
- 894 Freight Depot.
- 882 Garage: Non-Storage.
- 889 Garage: Storage.
- 767 Gas Works, Natural Gas Plant.
- 851 Lumber Yard.
- 573 Motor Vehicle Repair Shop, Paint Shop.
- 581 Office Building, Store, City, Federal or Commercial.
- 571 Oil Selling Station.
- 841 Oil Storage Plant.
- 898 Pier, Wharf, Dock, Bulkhead Building.
- 161 Restaurant, Diner.
- 925 Shed, Newstand, Shanty.
- 781 Shipyard, Drydock.
- 815 Stable.
- 614 Steam Generating Plant.

- 539 Storebuilding, Taxpayer.
- 891 Warehouse Storehouse.
- 410 Store Building & Private Dwelling.
- 580 Other Commercial.

**PUBLIC**

- 171 Airport Building.
- 361 Asylum.
- 921 Bridge.
- 173 Bus Terminal.
- 133 Church, Synagogue.
- 121 Dance Hall, Banquet Hall.
- 334 Dispensary, Clinic.
- 177 Ferry Terminal.
- 331 Hospital, Infirmary.
- 811 Nursing Home.
- 174 Railroad Station, Street Level.
- 175 Railroad Station, Below Grade.
- 176 Railroad Station, Above Grade.
- 241 School: College, University.
- 215 School: High School.
- 214 School: Junior High.
- 213 School: Elementary.
- 211 School: Children's Nursery.
- 210 School: Other.
- 185 Television Studio.
- 181 Theatre, Legitimate.
- 183 Theatre, Motion Picture.
- 170 Transit System—Station Structure.
- 922 Tunnel.
- 119 Other Public.

**RESIDENTIAL**

- 489 Apartment Hotel "A".
- 428 Apartment House "A".
- 439 Boarding House, Rooming House "B".
- 485 Convent, Rectory, Monastery, etc.
- 461 Dormitory—School, Club, Lodge.
- 449 Hotel "B".
- 430 Lodging House "B".
- 440 Motel.
- 411 Private Dwelling: One Family.
- 414 Private Dwelling: Two Family.
- 420 Tenement: New Law "A".
- 423 Tenement: Old Law "A".
- 422 Converted Dwelling "A".
- 490 Other Residential.

**SPECIAL PROPERTIES**

- 972 Airport Runway.
- 934 Cemetery.
- 981 Construction Site.
- 932 Dump, Landfill.
- 931 Open Land, Fields.
- 965 Parking Area, Lot.
- 983 Pipeline, Power Line Right-of-Way.
- 962 Public Street.
- 952 Railroad Switching Yard, marshalling yard.
- 936 Vacant Lots.
- 938 Outdoor Property Not Classified.

**14.20 BUILDING STATUS CODE****Code Description**

- 1 Occupied: The building is normally fully occupied or is intended to be fully occupied. A few vacant areas, which are rentable, may exist.
  - 2 Partly Occupied: The building is in good condition and more than 25 percent of the areas are vacant.
  - 3 Partly Occupied, Deteriorating: The building has some vacant areas and these are expected to remain vacant until demolition or alteration because of the condition of the building or its surroundings.
  - 4 Vacant: The building is entirely vacant. (Even if squatters are present.)
  - 5 Under Demolition: The building is in the process of being torn down.
  - 6 Under Construction: The building is under construction and does not have any occupants.
  - 7 Under Construction: The building is partially occupied, whether under a temporary certificate of occupancy or not.
- Note: The status code applies to the building, not the fire area. Therefore, codes 1, 2 and 3 may be used whether the fire itself occurred in a vacant or occupied area, and code 1 may apply even if the fire occurred in a vacant area (for example, a fire in a vacant apartment being repainted for a new tenant). The occupied or vacant status of the fire area is now recorded on the "Area of Origin" Code. (see Paragraph 2.19.2)



4

**14.21 COMPLEX**

11. **PUBLIC RECREATION COMPLEX**  
Included are zoos, amusement parks and general recreation parks.
12. **STADIUM, EXHIBITION HALL COMPLEX**  
Included ballparks, racetracks, sports gardens and arenas.
14. **CLUB COMPLEX**  
Included are golf clubs, tennis clubs and country clubs.
20. **EDUCATIONAL COMPLEX**  
Included are schools, colleges and universities.
33. **MEDICAL CARE COMPLEX**  
Included are Hospitals, Medical Centers, Mental Institutions.
34. **PRISON COMPLEX**
40. **BUSINESS WITH RESIDENTIAL COMPLEX**  
Included are apartments over stores.
41. **DWELLING COMPLEX (ONE AND TWO-FAMILY)**
42. **APARTMENT COMPLEX**
44. **HOTEL COMPLEX**  
Included are motels, inns and lodges.
47. **MOBILE HOME PARK COMPLEX**
58. **SHOPPING COMPLEX**  
Included are department stores, malls, discount houses and shopping centers. Also included are groups of business and commercial establishments which may contain theaters and other places of assembly.
59. **OFFICE COMPLEX**  
Included are non-military government office complexes.
61. **POWER PRODUCTION COMPLEX**
63. **MILITARY RESERVATION DEFENSE COMPANY**
65. **FARM COMPLEX**
70. **INDUSTRIAL PLANT, MANUFACTURING COMPLEX**
80. **WAREHOUSE, STORAGE COMPLEX**
91. **CONSTRUCTION COMPLEX**  
Included are demolition operations.
93. **CAMPSITE COMPLEX**
94. **WATERFRONT COMPLEX**  
Included are marinas.
95. **RAILROAD TRANSPORT COMPLEX**
96. **ROAD COMPLEX**  
Included are highways, streets and all public ways.
97. **AIRPORT COMPLEX**
98. **NO COMPLEX**  
If other properties meeting the definition for a complex as defined above are identified, they may be indicated by Complex Code 99.

**AREA FIRE ORIGIN****14.22 FLOOR CODE NO.**

- 00 **OUTSIDE BUILDING**
- 01 1st Floor
- to to
- 94 94th and Higher
- 95 Attic
- 96 Roof
- 97 Basement
- 98 Cellar
- 99 Sub-Cellar

**14.23 AREA FIRE ORIGIN—****OCCUPANCY CLASSIFICATION****00 NOT IN BUILDING****COMMERCIAL**

- Factory:**
- 99 Chemicals
  - 01 Dresses
  - 02 Undergarment
  - 03 Other (state type)
  - 04 Dry Cleaning Laundry
  - 05 Electrical Products
  - 06 Food and Drink Products

- 07 Furniture
- 08 Furs, Fur Goods
- 09 Men's Hats
- 10 Women's Hats
- 11 Leather, Leather Products
- 12 Machine Shop Metal Works
- 13 Paints
- 14 Paper Products
- 15 Petroleum Products
- 16 Plastics, Rubber
- 17 Printing and Allied Industries
- 18 Shoes
- 19 Textiles
- 20 Toy or Doll
- 21 Woodworking
- 22 Other factories not classified (state type)

**Store:**

- 23 Auto Accessories
- 24 Bakery
- 25 Butcher
- 26 Candy, Cigar, Stationary
- 27 Clothing
- 28 Department, large
- 29 Department, small (5 & 10)
- 30 Dry Cleaner & Tailor
- 31 Drug
- 32 Electrical Appliance
- 33 Fruits and Vegetables
- 34 Furniture
- 35 Grocery, Dairy, Delicatessen
- 36 Haberdashery
- 37 Ladies Accessories
- 38 Laundry
- 39 Paint, Hardware
- 40 Restaurant Luncheonette
- 41 Shoe
- 42 Shoe Repair
- 43 Supermarket
- 44 Tavern
- 45 Other Stores not classified (state type)

**Garages:**

- 46 Non storage
- 47 Storage
- 48 Oil Filling Station
- 49 Motor Vehicle Repair Shop
- 50 Office Building

**Warehouse:**

- 51 Film
- 52 Paper, Rags, Fibre
- 53 Other (state type)
- 54 Freight Depot
- 55 Pier
- 56 Shipyard
- 57 Lumber yard
- 58 Shed, Handstand, Shanty, etc.
- 59 Other Commercial Building Occupancies, not classified (state type)

**Residential:**

- 60 Apartment, Hotel, Multiple Dwelling "A"
- 61 Apartment House, Multiple Dwelling "A"
- 62 Boarding House, Rooming House, Multiple Dwelling "B"
- 63 Hotel, Multiple Dwelling "B"
- 64 Lodging House, Multiple Dwelling "B"
- 65 Private Dwelling
- 66 Rectory, Convent, Monastery, etc.
- 67 Tenement House, New Law, Multiple Dwelling "A"
- 68 Tenement House, Old Law, Multiple Dwelling "A"
- 69 Other Residential, not classified (state type)

**Public:**

- 70 Airport
- 71 Cabaret, Banquet Hall
- 72 Church
- 73 Dance Hall
- 74 Hospital
- 75 Motion Picture Theatre
- 76 N.Y. Transit System Station
- 77 Passenger Depot
- 78 School
- 79 Theatre
- 80 TV Studio
- 81 Other Public, not classified (state type)

**14.24 AREA OF FIRE ORIGIN****A. MEANS OF EGRESS**

01. Hallway, corridor, mail.
02. Exterior stairway.
03. Interior stairway.
04. Escalator.
05. Lobby, entrance way.
08. Not classified above.

**1. ASSEMBLY AREA**

11. Fixed seats (100 or more persons).
12. Without fixed seats (100 or more persons).
13. With or without fixed seats, (less than 100 persons)
14. Living room, family room, lounge area.
15. Sales, showroom area.
16. Library, art galleries, exhibit.
17. Swimming pool area.
18. Not classified above.

**2. FUNCTION AREAS**

21. Bedrooms, patient rooms, cells, lockups.
22. Wards, dormitories, barracks.
23. Dining area, luncheon, cafeteria.
24. Kitchen, cooking area, cloakroom.
25. Laundry area.
26. Health clubs, massage parlors, barber, beauty.

**3. FUN AREAS (continued)**

31. Laboratory.
32. Printing or photographic room.
33. First aid, treatment room.
34. Operating room.
35. Electronic, computer, telephone room, telephone booth.
36. Performance, stage area, indoor sports.
37. Projection room, stage light.
38. Process, manufacturing area.
39. Not classified above.

**4. STORAGE AREAS**

41. Tank, bin, product storage room.
42. Closet.
43. Supply room.
44. Records storage room, vault.
45. Shipping, receiving, loading mail room.
46. Trash or rubbish container, compactor.
47. Garage, carport, vehicle storage.
48. Not classified above.

**5. SERVICE FACILITIES**

51. Elevator, dumbwaiter.
52. Electrical, plumbing, ventilation shaft.
53. Light shaft.
54. Laundry or mail chute.
55. Duct.
56. Display window.
57. Chimney, flue, stovepipe.
58. Conveyor.
59. Not classified above.

**6. SERVICE, EQUIPMENT AREA**

61. Machinery room.
62. Heating equipment, water heater area.
63. Switchgear area, transformer vault.
64. Incinerator room area.
65. Maintenance shop, workshop, paint shop, welding shop.
66. Test cell.
67. Enclosure with pressurized air.
68. Enclosure with enriched oxygen atmosphere.
69. Not classified above.

**7. STRUCTURAL AREAS, NON-FUNCTIONAL**

71. Crawf space, cellar, substructural area.
72. Exterior balcony, open porch.
73. Floor and ceiling assembly concealed floor/ceiling space.
74. Roof and ceiling assembly, concealed roof/ceiling space.
75. Wall assembly, concealed wall space.
76. Exterior wall surface.
77. Exterior roof surface.
78. Awning, overhang.
79. Not classified above.

**8. TRANSPORTATION, VEHICLE AREAS**

- 81. Passenger area.
- 82. Trunk, load carrying area.
- 83. Engine, running gear, wheel area.
- 84. Fuel tank, fuel line.
- 85. Operating, control area, cab, cockpit.
- 86. Exterior exposed surface.
- 89. Not classified above.

**9. OTHER AREAS OF ORIGIN**

- 91. On or near railroad right of way, embankment.
- 92. On or near highway, public way, street.
- 93. Terrace, patio, courtyard.
- 94. Lawn, field, open area, vacant lot.
- 95. Wildland area, woods.
- 97. Multiple location.
- 98. Vacant room, apartment or area.
- 99. Not classified above.

**14.25 MANNER OF EXTENSION****Code No.**

- 00 Confined to area of origin.
- 01 Cockloft.
- 02 Door or opening between rooms.
- 03 Floor.
- 04 Hall, Stairway.
- 05 Partition.
- 06 Pipe Recess.
- 07 Shaft-dumbwaiter.
- 08 Shaft-Elevator.
- 09 Shaft-air, Light, Chute, Duct, etc.
- 10 Ceiling.
- 11 Window.
- 12 Other (state type).

**14.26 NUMBER OF OCCUPANCIES****Codes Description**

- 01 1 occupancy
- 02 2 occupancies
- •
- •
- 99 99 or more occupancies

**14.27 BUILDINGS****Code: 0 to 9**

- 0— did not spread beyond building of origin
- 1—1 structure or vehicles
- •
- •
- •

9—9 or more buildings or vehicles

**NOTE:** Form BF-24A must be submitted for each building or vehicle listed in this coded space.

**14.28 DAMAGE CODES****14.28.1 Percentage Codes**

- 0 No appreciable damage
- 1 From 1 through 15%
- 2 From 16 through 49%
- 3 50% or greater

**14.28.2 Extent of Damage Codes: To be used in the Damage Category Boxes "Flame, Smoke and Water".**

- 1. Confined to object or origin.
- 2. Confined to part of room or area of origin.
- 3. Confined to room of origin.
- 4. Confined to fire-rated compartment of origin.
- 5. Confined to floor of origin.
- 6. Confined to structure of origin.
- 7. Extended beyond the structure of origin.
- 9. No damage of this type.

**14.29 SMOKE AND HEAT DETECTOR CODES****14.29.1 Present**

- 1 Present
- 0 Not Present

**14.29.2 Type**

- 1. Smoke
- 2. Heat

**14.29.3 Power Source**

- 1. Battery
- 2. A/C

**14.29.4 Performance**

- 1. In room of fire; operated
- 2. Not in room of fire; operated
- 3. In room of fire; did not operate
- 4. Not in room of fire; did not operate
- 5. In room; fire too small to operate
- 6. Did not operate; power source removed
- 9. Not classified

**14.30 POWER FOR EQUIPMENT**

- 01 1-23 volts A.C.
- 02 24 volts A.C.
- 11 1-6 volts D.C.
- 12 7-12 volts D.C.
- 15 115 volts A.C.
- 28 208 volts A.C.
- 30 220-230 volts A.C.
- 33 231-330 volts A.C.
- 34 331 or higher volts A.C.
- 50 25-50 volts A.C.
- 61 Butane
- 62 Coal, Coke, Charcoal, Peat
- 63 Fuel Oil, No. 1 or No. 2
- 64 Fuel Oil, No. 3 or No. 4
- 65 Fuel Oil, No. 5 or No. 6
- 66 Gasoline
- 67 Kerosene
- 68 LN gas (stored as liquid)
- 69 LP gas (stored as liquid)
- 70 Natural or Illuminating gas (as a gas)
- 71 Paper
- 72 Propane
- 99 Other

**14.31 CODE FOR TYPE OF ACTION TAKEN**

- 1. Extinguishment
- 2. Rescue
- 3. Investigation
- 4. Remove Hazard
- 5. Standby
- 6. Salvage
- 7. First Aid
- 9. Cancelled Enroute

**14.32 CLASSIFICATION BY TYPE FIRE OR EMERGENCY****TRANSPORTATION****Code No.**

- 87 Ship, Vessel
- 88 Motor Vehicle
- 89 Other Transportation (state type)

**NON-STRUCTURAL FIRES****Code No.**

- 84 Explosion, no after fire
- 85 Outside Spill/Leak with Fire
- 86 ADV (Abandoned/Derelict Motor Vehicle)
- 90 Bonfire
- 91 Brush, Grass
- 92 Demolition Wood, Building Site
- 93 Dump, Land Fill
- 94 Rubbish—Outside Building
- 95 Manhole
- 96 N.Y. Transit System—Yard, Roadway, Ties, etc.
- 97 Railroad Yard, Roadway, Ties, etc.
- 98 Tunnel, Bridge
- 99 Other Non-Structural, not classified (state type)

**EMERGENCY****Code No.**

- 03 Elevator, Escalator
- 04 Explosives Escort
- 05 First Aid—Assist Person(s)

**06 First Aid—Resuscitation**

- 07 Marine
- 08 Precarious Condition—Signs, Trees, etc.
- 09 Subway, Railroad
- 10 Water Leak
- 11 Bomb—Unexploded, Scare
- 12 Collapse—Cave In
- 13 Collision—Vehicular Incident
- 14 Controlled Fire, Permitted
- 15 Flood Condition—Broken Water Main
- 16 Incinerator
- 17 Leak—Fuel Oil, Gasoline, etc.
- 18 Leak—Illuminating Gas, Flammable Vapor
- 19 Lightning
- 20 Oil Burner
- 21 Person Locked In, Locked Out
- 22 Power Electrical
- 23 Pressure Rupture
- 24 Refrigerant Leak
- 25 Smoke Condition, Odor, Fumes
- 26 Sprinkler—Leak, Water Discharge, Damaged Head, etc.
- 27 Steam Discharge
- 28 Defective Alarm Device (other than Sprinkler)
- 29 Smoke Detector
- 30 Defective Alarm (Sprinkler)—Surge, Work on System, etc.
- 31 Other

**14.33 MOBILE PROPERTY TYPE CODES**

- 11 Automobile
- 12 Bus
- 13 Motorcycle, Snowmobile
- 14 Motorhome
- 15 Travel Trailer
- 17 Mobile Home
- 20 Freight, Road Transport
- 30 Rail Transport
- 40 Water Transport
- 50 Air Transport
- 60 Heavy Equipment
- 70 Special Vehicles, Containers
- 99 Other Mobile Property Types

## Appendix D

### SIGNIFICANT FIRES IN WTC 1

**Significant fire incidents occurring in WTC 1**

Significant Fire	Incident Date	Fire Location	# Sprinklers Activated	# Standpipes Activated	Cause of Fire	Material Ignited
1	9/9/77	B-6 level storage room	2		None listed	Not listed
2	9/23/77	Dumpster on B-4 level	2		Not classified	Trash/waste
3	10/16/81	Floor 19 office area	-	2	Discarded material	Furniture
4	12/23/83	2 dumpsters on B-4 level	2	1	Suspicious	Trash/waste
5	1/27/85	Office space on mezzanine level (floor 2)	2		Incendiary	Trash/waste
6	9/10/85	Garbage dumpster in service elevator lobby on floor 43	2	1	Suspicious	Trash/waste
7	11/1/85	Storage closet on B-4 level	3	1	Suspicious	Supplies/stock
8	6/7/86	Dumpster fire on floor 106, compactor room on floor 107	2	1	None listed	Trash/waste
9	9/30/91	Office on B-4 level	≥1	2	Discarded material	Trash/waste
10	11/19/91	Electrical closet on floor 93	0	2	Short circuit	Electrical wire or cable insulation
11	7/23/92	Level B-5 at the power distribution panel	0	2	Electrical failure	Electrical wire or cable insulation
12	11/10/99	Computer room on floor 104	3	≥1	None listed	Plastics, electronic equipment

## REPORT - STRUCTURAL FIRE

FOR FIRE RECORDS USE ONLY	DATE AND TIME ALARM RECEIVED			DURATION OF INCIDENT			LOCATION			REPORT								
	TYPE REPORT	MONTH	DAY	YEAR	CD NO.	HOUR	MINUTE	MINUTES	HOW REPORTED		INITIAL ALARM	HIGHEST ALARM	BOROUGH	BOX NUMBER	ADMIN. COMPANY	BLOCK NUMBER	REPORT NUMBER	FILING DIVISION
	1	09	09	77	1	2304	01	00	4	1	0	1	0070	5006	0113	0063	01	321

AIDED AND CASUALTIES				RESP.	EXTINGUISHMENT	INVESTIGATION	STRUCTURE	AREA FIRE ORIGIN														
CIVILIANS																						
EVAQUATED	FIRST AID	INJURED	DECEASED	UNIFORMED INJURED	ENG. SO. ALARMS	LOBBIES	CODE	NO. INTR. H2S CHK.	STAIRWELL	ELEVATOR	CAUSE	FIRE MARSHAL	CONSTRUCT	USE	STATUS	PROPERTY	PLANTING	CONCRETE	POOL CODE	POOL OR AREA CODE	OCCUPANCY	APPROX. OF EXTENSION
00	00	00	00	00	03	2	0	02	00	0			1	15	1	0	1	99	54	50	00	

ADDRESS **1 World Trade Center** Man.BUILDING **110** STREET **200x200** BOROUGH

(Second Card) STORIES AREA

NAME OF OCCUPANT

Sgt. Daniels P.A. Police

LEFT IN CHARGE

5	006	0	10	7	001	0	10	7	004	0	10											

## OPERATIONS

Upon arrival at command post was told of fire in B 6 level storage room, operations as follows.

Ladder 1 made necessary investigation, located fire, vented, overhauled.

Ladder 3 checked for extension, vented overhauled.

Engine 6 stretched line from standpipe and stood fast.

Fire was extinguished by sprinkler system before arrival.

EN. 4 supervised operations on fire floor.

Fire Patrol 2 on the scene.

SC. Rudy E. DiGeorge 1 D.C. \_\_\_\_\_

**Rudy E. DiGeorge** **2306**

TYPE FULL NAME TIME OF ARRIVAL

DIY. PAGE **1** OF **1**

TIME OF ARRIVAL



Responded to 3-70-10 (Manual Alarm)

E.6- Rolled up lengths stood fast.

L.1- Search. examination, ventilation of B-4 level, conditions as stated.

B.C. <u>Michael R. Porgio</u>		1		D.C.		DIV.		PAGE	
		BN.							
<u>Michael R. Porgio</u>		<u>1251</u>							
TYPE FULL NAME		TIME OF ARRIVAL		TYPE FULL NAME		TIME OF ARRIVAL			

ADMINISTRATIVE COMPANY





**STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY**

TYPE REPORT		DATE AND TIME ALARM RECEIVED				BOX LOCATION		IGNITION				STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION					
MONTH	DAY	YEAR	HOUR	MINUTE	BOROUGH	BOX NO.	BUILDING NO.	TERM. STAGE	COUP. INVOLVED	HEAT FORM	MATERIAL TYPE	MATERIAL FORM	CONSTRUCTION	USE	STATUS	LOSS DAMAGE	FLOOR CODE	RN/AREA CODE	OCCUPANCY	MANNER OF	OCCUPANCIES
6	10	16	31	19	12	1	808	100													

NUMBER (INCL. HYPHEN)		STREET NAME		TYPE		IF MOBILE PROPERTY	
1	001	10	World Trade Center				

YR.	MAKE	MODEL	79 SERIAL NO.	LICENSE	STATE

UNIT	PTS.	195	201	207	213	219	225	231	236
189									

**OPERATIONS**

Lad.8 (cont.)- Forced door to Office room#2073

Res.1- Checked vent ducts and stairways on and above fire floor, secured passenger elevators serving fire floor.

Patrol#1- On scene, salvage work on 16th and 17th floors.

Patrol#2- On scene, salvage work on 18th floor.

Div.1- D.C. Rossi on scene, in charge of Department operations upon arrival.

B.C. James J. McKenna 1 D.C. John D. Rossi 1

BN. TIME OF ARRIVAL DIV. PAGE

1916 202

TYPE FULL NAME TIME OF ARRIVAL TYPE FULL NAME TIME OF ARRIVAL

## REF. 24 (1/80)-175M-608551 (83)

## OPERATIONS

Responded to report of fire in B-4 Level , and heavy smoke condition. Found two dumpsters fully involved in separate locations on same floor. Sprinklers extinguished major portion of fire. Signal 10-42 code 1.

of fire. Original 10-4 sent to  
Engine Co. 10 - Stretched from standpipe, and extinguished remaining fire.  
Ladder Co. 1 - Overhauled, checked for extension and vented.

**Rudolph S. Quatrone**

18t

02:53<sup>BN.</sup>

Of

DIV.

TIME OF ARRIVAL

TYPE FULL NAME

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

5/6

## BF-24 (1/80)

INCIDENT LOCATION				DATE AND TIME ALARM RECEIVED				INCIDENT DURATION				REPORT			
COMMUNITY BOARD	ADMIN. COMPANY	BLOCK NUMBER	TYPE REPORT	YEAR	MONTH	DAY	HOUR	MINUTE	HOURS	MINUTES	HOW REPORTED	HIGHEST ALARM	BOX LOCATION	REPORT NUMBER	
1	01	5	0137	01-27-85	2053	01	00	2	1	1	8084	0293	01	113	022

AIDED AND CASUALTIES				EXTINGUISHMENT				IGNITION				STRUCTURE				AREA FIRE ORIGIN				FIRE EXTENSION				SPECIAL USE			
EVACUATED	FIRST AID	INJURED	KILLED	UNFURNISHED	CODE	SPRINKLER	STANDARD LINES USED	TEMP. STAGE	EQUIP. INVOLVED	MATERIAL TYPE	FACTORY	CONSTRUCT.	STATUS	BIG DAMAGE	FLOOR CODE	RM. AREA CODE	OCCUPANCY	MANNER OF	OCCUPANTS	NO. BLOS.	SMOKE DETECTORS	1	2	3			
00	00	00	00	2	01	00	396	66	60	75	11	1	15	1	1	02	59	00	00	0	0	0	0	0	0		

STREET NAME		TYPE		BUILDING		AREA	
1	World Trade Center	1	130	110	132	200x200	

NAME OF OCCUPANT		ROOM, APT. NO.	
1	New York Port Authority	1	NJ

EQUIPMENT INVOLVED IN IGNITION		EQUIPMENT		EQUIPMENT		EQUIPMENT	
UNIT	PTS.	ITEM	UNIT	PTS.	ITEM	UNIT	PTS.
5	006	05	7	001	05	7	010

EQUIPMENT INVOLVED IN IGNITION		EQUIPMENT		EQUIPMENT		EQUIPMENT	
UNIT	PTS.	ITEM	UNIT	PTS.	ITEM	UNIT	PTS.
5	006	05	7	001	05	7	010

**OPERATIONS**

On arrival, found two sprinkler heads containing fire in unoccupied office occupancy on mezzanine level. Units assigned as follows:

Eng. 6: Stretched line, stood fast.  
 Lad. 1: Located fire, searched, extinguished remaining fire. Shut down sprinkler system.  
 Lad. 10: Checked for extension.

10-41 signal (code 1) transmitted.

On arrival, found two sprinkler heads containing fire in unoccupied office occupancy on mezzanine level. Units assigned as follows:

Eng. 6: Stretched line. stood fast.

Eng. 6: Stretched line, stood fast.  
Lad. 1: Located fire, searched, extinguished remaining fire. Shut down sprinkler system.  
Lad. 10: Checked for extension.

10-41 signal (code 1) transmitted.

John J. Spillane  
John J. Spillane  
TYPE HERE

AUG 28 2003  
JRE

8160138

INCIDENT LOCATION		DATE AND TIME		ALARM RECEIVED		INCIDENT DURATION		BOX LOCATION		REPORT		COS. RESP.	
ADMIT. COMPANY	BLOCK NUMBER	MONTH	DAY	YEAR	HOUR	MINUTE	MINUTES	INITIAL ALARM	BOX NUMBER	REPORT NUMBER	REPORT	ENGINE	RESP.
101	5010	09	10	85	1605	01	00	14	1	2	18084	0119	01 578 7 6

AIDED AND CASUALTIES		EXTINGUISHMENT		STRUCTURE / AREA		FIRE ORIGIN		FIRE EXTENSION		SPECIAL USE		
EVALUATED	FIRST AID	INJURED	KILLED	UNIFORMED	SPRINKLER	STANDPIPE	STAGE	EQUIP INVOLVED	HEAT FORM	MATERIAL TYPE	CONSTRUCT.	
00	00	00	00	5	2	1	3	89	00	60	75	21
00	00	00	00	5	2	1	3	89	00	60	75	21

STREET NAME		TYPE		BUILDING		AREA	
NUMBER	STREET NAME	TYPE	STREET NAME	BUILDING	AREA	BUILDING	AREA
1	World Trade Center	1	43 FL	99	200 x 200	99	200 x 200

Port Authority NY NJ

NAME OF OCCUPANT: Sgt. Mbin, PA Police Dept.

EQUIPMENT INVOLVED IN IGNITION: LEFT IN CHARGE

YR. MAKE MODEL S/N POWER

UNIT P.T.S. ITEM

5 010 10 5 006 02 7 010 10 7 008 09 7 001 10

OPERATIONS

Upon arrival at the Command Ctr of the World Trade Center, Batt. 1 was informed by the PA Police that, according to their reports, there was a sprinkler flow and smoke condition on the 43 floor. When Ladder 10 (1st due) reported a medium smoke condition on the 43 floor, Batt. 1 transmitted signal 10-76. The fire was located in a garbage dumpster in a service elevator lobby on the 43 F and was extinguished by 2 sprinkler heads with no extension.

Engine 10- Took rolled-ups to 42 floor. Stretched a 2 1/2 line from the standpipe in B stairwell to fire location. Line used for overhauling. Chauffeur manned the Standpipe phone at the CP and assisted in communications.

B.C. *Kenneth T. McGowan* D.C. *John S. Hodgens*

Kenneth T. McGowan 1611 John Hodgens

PAGE 1 OF 2

FIRE RECORDS

TYPE REPORT			DATE AND TIME ALARM RECEIVED			BOX LOCATION		IGNITION			STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION								
MONTH	DAY	YEAR	HOUR	MINUTE	SECOND	BOROUGH	BOX NO.	BUILDING NO.	TERM. STAGE	EQUIP. INVOLVED	HEAT FORM	MATERIAL TYPE	MATERIAL FORM	CONSTRUCT.	USE	STATUS	BLDG. DAMAGE	CONT'S DAMAGE	FLOOR CODE	RW AREA CODE	OCCUPANCY	MANNER OF	OCCUPANCIES
6	09	10	85	16	05	1	8084																
NUMBER (INCL. HYPHEN)		STREET NAME		TYPE		ITEM																	
1		World Trade Center																					
YR.		MAKE		MODEL		79 SERIAL NO.		LICENSE		STATE													
5		007 02																					
UNIT		PTS.		201		207		213		219		225		231		236							

## OPERATIONS

Engine 6- (teamed with E.10) Assisted E. 10 in Standpipe stretch.

Engine 7- Manned the Standpipe phone in Stairway B on 1st Fl., relayed messages to and from Command Center

Ladder 10- To 43 fl, stairway B, found fire, searched 43 fl (negative) made necessary examination and overhaul of fire area.

Ladder 1-to 44 fl, searched for fire, smoke extension, searched for troubled occupants (negative) Checked top ten fls (101-110) for smoke (Neg.)

Ladder 8- Made secondary search of 43 fl (negative). Searched fls 44 to 49. Searched affected service elevator cars #17 & 29.

Batt. 4- Set up operations post on 43 fl. Communicated with Command Center, supervised operations of units on 43 and 44 fls.

E.4, E.3 (HiRise Unit), L.15 & Res. Co 1 stood fast, took up.

Brooklyn Cos responding on supplemental Boxes 9031 & 9032 at 1617 hrs Batt 31, Batt 32, E. 205, E. 279, L.101, L.110 stood fast, took up.

F.C.U. - Established Field Hqtrs, Monitored Communications.

Sprinkler heads (2) replaced by P.A. personnel.

Signal 10-41, Code 1 transmitted, Evidence of separate, previous fire reported to FM McCaffrey.

Responded to Scene: AC Matthew Farrell, Manhattan Borough Commander

Signal	Time	By
10-84	1609	E.10
10-76	1615	Batt 1
P.W.H.	1627	Div 1
U.C.	1640	Div 1

R.C.	Signature	SN.	D.C.	Signature	DIV.	PAGE
	Kenneth T. McGowan	1611		John Hodgins		2 OF 2
	TYPE FULL NAME	TIME OF ARRIVAL		TYPE FULL NAME	TIME OF ARRIVAL	

FIRE RECORDS

NIST NCSTAR 1-4A, WTC Investigation

**REPORT - ADDITIONAL DATA**

**STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY**

TYPE REPORT		DATE AND TIME ALARM RECEIVED				BOX LOCATION		IGNITION				STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION						
MONTH	DAY	YEAR	HOUR	MINUTE	BOROUGH	BOX NO.	BUILDING NO.	TERM. STAGE	EQUIP. INVOLVED	HEAT FORM	MATERIAL TYPE	MATERIAL FORM	CONSTRUCTION	USE	STATUS	BLOG. DAMAGE	CONT'S DMGE.	FLOOR CODE	Rm./AREA CODE	OCCUPANCY	MANNER OF	OCCUPANCIES
6	11	01	85	0405	1	8093																

NUMBER (INCL. HYPHEN)		STREET NAME		TYPE	
182		WTC			

IF MOBILE PROPERTY

YR.	MAKE	MODEL	79 SERIAL NO.	LICENSE	STATE

UNIT	PTS.	195	201	207	213	219	225	231	236
189									

**OPERATIONS**

- E-10 stretched line into fire area from standpipe and extinguished all remaining in closet area
- E-7 Stretched line from opposite side of fire and stood fast
- E-6 assisted E10 in stretching line and relieved on line and then washdown
- L-10 found fire and performed necessary VES and overhaul in area, made primary and secondary search, then up
- L-1 performed necessary VES and checked for possible extension in surrounding areas

Tines: 10-84 0408  
 10-75 0410  
 All Hands 0425  
 10-41-1 0425

B.C. Joseph L. Barracato BN. 1 D.C. \_\_\_\_\_ DIV. \_\_\_\_\_

Joseph L. Barracato 0408

TYPE FULL NAME TIME OF ARRIVAL TYPE FULL NAME TIME OF ARRIVAL

**ADMINISTRATIVE COMPANY**

PAGE 2 OF 2



## REPORT – STRUCTURAL FIRE

BF-24 (1/80)-175M-608551 (83J)[illegible]

## OPERATIONS

Received ~~1100~~ alarm for a heavy smoke condition on the 110th floor. While responding received 2nd. source and the box was filled out. Upon arrival found fire in garbage dumpster on the 106th floor. Sprinklers in operation and a heavy smoke condition on 106-110th floors. - Units operated VIZ: Transmitted 10/76.

D.C. Tos BN. 1 D.C. \_\_\_\_\_ DIV. \_\_\_\_\_ PAGE ☐ OF ☐

TIME OF ARRIVAL 0654 TYPE FULL NAME DAVIDSON

TYPE ELLI NAME \_\_\_\_\_



**REPORT — ADDITIONAL DATA****STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY**

TYPE REPORT		DATE AND TIME ALARM RECEIVED				BOX LOCATION		IGNITION				STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION						
MONTH	DAY	YEAR	HOUR	MINUTE	BOROUGH	BOX NO.	BUILDING NO.	TERM STAGE	CAUSE INVOLVED	HEAT FORM	MATERIAL TYPE	MATERIAL FORM	CONSTRUCTION	USE	STATUS	BLOG DAMAGE	CONT'S DMGR.	FLOOR CODE	RM/AREA CODE	OCCUPANCY	MANNER OF	OCCUPANCIES
6	06	07-86	09	49	1	8084	0	3	00	00	99	75	1	15	1	1	1	94	57	40	00	99

NUMBER (INCL. HYPHEN)		STREET NAME	TYPE	IF MOBILE PROPERTY
1		WTC		

YR.	MAKE	MODEL	79 SERIAL NO.	LICENSE	STATE

UNIT	PTS.	195	201	207	213	219	225	231	236
1	001	05	5	003	02				

L.7- Upon arrival reported to **OPERATIONS** 106<sup>th</sup> floor and stretched from

standpipe to fire and extinguished same. Fire in dumpster assisted L.10 in making search of area. Negative

L.6 Reported to 106th floor. Ordered to stand fast. Then up.

L.10 Reported to 106th Floor. Ordered to stand fast. Then up.

L.10 Reported to 107th Floor. Found fire in compactor room. Sprinkler in operation. Forced entry to sprinkler shut-off room. Shut same. Made necessary search and examination. Then up.

L.1 Reported to 107th floor. Assisted Ladder 10 in search and examination. Negative search. Then up.

R-1 searched floors above fire. Light smoke. Negative. Then up.

L.3/Mi-Mise Unit: ordered to 10-2

Field Comm Unit: - ordered to 10-2

Batt. 4: supervised operations on 106-110 floors. Units L.7, L.10 L.1 and R-1. Then up.

B.C.	BN.	D.C.	DIV.	PAGE OF
TYPE FULL NAME	TIME OF ARRIVAL	TYPE FULL NAME	TIME OF ARRIVAL	

**ADMINISTRATIVE COMPANY**





INCIDENT LOCATION				DATE AND TIME ALARM RECEIVED				INCIDENT DURATION				BOX LOCATION				REPORT				COMPANIES RESPONDING				HAZ MAT				SPECIAL USE			
INCIDENT	LOCATION	MONTH	DAY	YEAR	HOUR	MINUTE	SECOND	HOURS	MINUTES	SECONDS	BOX	LOCATION	REPORT	REPORT	REPORT	REPORT	REPORT	REPORT	REPORT	REPORT	REPORT	REPORT	REPORT	REPORT	REPORT						
101	5010	11	19	91	18	27	03	30	81	1	2	1	8064	02	63	0562	01	239	13	08	16	00	000	0	0	0					
<p><b>CAUSE FOR ALARM:</b> ERS 1st alarm, transmitted from World Trade Center(WTC) Police Desk, while responding: Monitored 10-94 by Eng. 10, and WTC Hamline Talkie,</p> <p><b>On arrival at WTC CP.:</b></p> <ol style="list-style-type: none"> <li>1. Received report of fire in electrical cabinets, on possible 4 floors,</li> <li>2. Received reports of smoke condition on 4 floors,</li> <li>3. Alarms had been transmitted from floors 93 to 98.</li> <li>4. WTC Police Desk heavily engaged in receipt of phone inquiries relative to fire.</li> </ol>																															
<p><b>REPORT OF N.Y. AUTHORITY</b></p> <p>LEFT IN CHARGE: Mr. Cancelliere, Bldg. Mgr. POWER</p> <p>ROOMMATE: YR MAKE MODEL SERIAL NUMBER</p> <p>EQUIPMENT INVOLVED IN IGNITION</p> <p>WTC UNIT: 101030 500630 500730 500410 501810</p> <p>WTC UNIT: 101030 500630 500730 500410 501810</p>																															







BF-24A (12/86)

## REPORT - ADDITIONAL DATA

## STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT		DATE AND TIME ALARM RECEIVED				BOX LOCATION		INCIDENT NUMBER		IGNITION				STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION					
MONTH	DAY	YEAR	HOUR	MINUTE	BOROUGH	BOX NUMBER	BUILDING NO.	ZONE OR AREA	FLOOR INVOLVED	HEAT FORM	MATERIAL TYPE	MATERIAL FORM	CONSTRUCTION	DOE	STATUS	FLOOR CODE	OCCUPANCY	AREA CODE	MANAGER	OCCUPANCY	REMOVED REPORT		
6	11	19	91	18	27	1	0084	0562	00	3	41	25	43	61	1	591	1	93	81	52	09	04	0

NUMBER (INCL. HYPHEN)		STREET NAME		TYPE	
1	1	WORLD TRADE CENTER			

DAMAGE		DETECTORS	
% DAMAGED	FLAME	SMOKE	UNITED
2	1	1	0

OCCUPANT (Driver)		ROOM/APT.	

IF MOBILE PROPERTY		TYPE		YR.		MAKE		MODEL		VIN.		LICENSE		STATE	

UNIT		PTS.	

## OPERATIONS

7. Confirmed with WTC personnel, engineering staff as to time frame for electrical power removal for effected floors,
8. Denied WTC Police request to initiate general evacuation of floors "93 to roof level", based on unknowns of: a. smoke conditions, b. stair availability, c. numbers of people that may be involved,
9. Upon notification by WTC Engineering staff of (2) elevators stuck at floor 88 and 101, Ladder Co. 6 assigned task of victim removal, as accompanied by WTC elevator mechanic,
10. As Chief Officers arrived at Command Post they were issued WTC Handie Talkies and their assignments,
11. Called for EMS response for reported burn victim (mechanic with facial burns and for possible needs,
12. Primary search of upper floors proved to be time consuming due to large floor area and limited Handie Talkie capabilities, conducted by 1st alarm trucks,
13. Rescue Company 1 assigned to follow up secondary search of floors with equipment including ladder companies
14. 10-76 Signal proved very effective, provided immediate response of Chief Officers to initiate various sector controls.

BC Lawrence M. Byrnes 1830 85 DC  DIV. 3

TYPE FULL NAME TIME ARRIVED TYPE FULL NAME TIME ARRIVED

BF-24A (12/86) 157-12-001531-0020-1

## REPORT - ADDITIONAL DATA

### STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT				DATE AND TIME ALARM RECEIVED				BOX LOCATION		INCIDENT NUMBER		BUILDING NO.				IGNITION				STRUCTURE				AREA OF ORIGIN				FIRE EXTENSION	
MONTH	DAY	YEAR		HOUR	MINUTE	BOROUGH	BOX NUMBER					BUILDING NO.	CORE OR APPL.	EQUIP. INVOLVED	FLAME FORM	MATERIAL TYPE	MATERIAL FORM	CONSTRUCTION	USE	STATUS	FLOOR CODE	OCCUPANCY	AREA CODE	MANNER	OCCUPANCY	REVISED REPORT			
6	11	1991		18	27	1	2084		0562	00	3	41	23	43	6	1	591	1	93	81	52	09	04	0					

ADDRESS				STREET NAME				TYPE		SUITE	
BORO.	NUMBER (INCL. HYPHEN)	SUFFIX	DIRECT								
1	1			WORLD TRADE CENTER							

DAMAGE				DETECTORS			
SPR. PERFORMANCE	% DAMAGED	FLAME	SMOKE	WATER	PRESENT	TYPE	POWER
2	1	1	0	0	0	0	0

World Trade Center

OCCUPANT (Driver)				ROOM/APT.			
TYPE	YR.	MAKE	MODEL				

IF MOBILE PROPERTY				LICENSE				STATE	
TYPE	YR.	MAKE	MODEL						

BUILDING				AREA			
STORIES	WIDTH	LENGTH					
59	00	0250	0250				

OPERATIONS

## Chief Officers at scene:

DAC. E. Butler,,,	CW Duty,
DC. H. Meyer	Div. 1,
DC. V. Dunn	Div. 3,
B.C. L. Byrnes	Batt. ONE,
B.C. R. Ardisson	Batt. 2
B.C. Davison	Batt. 4,
B.C. Roche	Batt. 6,
B.C. Shelley	Batt. 31,
B.C. Wagner	Batt. 32,
B.C. Dawe	Batt. 7,
B.C. Cesark	Safety Battalion.

## Personnel Present at Scene:

R. Schirer Fire Comm. Liaison,  
 D.C. Basile EMS Supervisor,  
 D.C. Tim 11210  
 Lt. Valle NYPD Pct. 1 supervisor,  
 Mr. T. Cancelliere WTC Bldg Mgr.,  
 (2) Representative of Salvation Army.

B.C. \_\_\_\_\_ ONE B.N. \_\_\_\_\_ DC. \_\_\_\_\_ DIV. \_\_\_\_\_

Lawrence M. Byrnes 1830

TYPE FULL NAME TIME ARRIVED TYPE FULL NAME TIME ARRIVED

BF-24A (12/86)

## REPORT — ADDITIONAL DATA

## STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT				DATE AND TIME ALARM RECEIVED				BOX LOCATION		INCIDENT NUMBER		BUILDING NO.		COND. OR ALARM		EQUIP. INVOLVED		HEAT FORM		MATERIALS TYPE		MATERIAL FORM		CONSTRUCTION		STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION	
MONTH	DAY	YEAR	MINUTE	BOROUGH	BOX NUMBER	INCIDENT NUMBER	BUILDING NO.	COND. OR ALARM	EQUIP. INVOLVED	HEAT FORM	MATERIALS TYPE	MATERIAL FORM	CONSTRUCTION	USE	STATUS	FLOOR CODE	OCCUPANCY	AREA CODE	MANNER	OCCUPANCY	REVISED REPORT										
6	11	1991	1827	1	8084	0562	00	341	23	45	61	1	591	1	93	31	52	09	04	0											

ADDRESS		STREET NAME		TYPE	
57	1	58	WORLD TRADE CENTER	59	0

DAMAGE		DETECTORS	
SPR. PERFORMANCE	% DAMAGED	FLAME	SMOKE
2	1	1	0

WORLD TRADE CENTER	
94	113

OCCUPANT (Driver)		ROOM/AFT.	
114	123		

IF MOBILE PROPERTY		TYPE		YR.		MAKE		MODEL		V.I.N.		LICENSE		STATE	
189	195	201	207	213	219	225	231								

UNIT		PTS.	
237	243	249	255

## OPERATIONS

## Time Sequences:

Signal  
Box 8084  
10-84  
10-76  
10-44  
10-84  
10-75  
22-9084  
10-84  
UC/8084

Time  
1827  
1830  
1833  
1842  
1845  
1848  
1858  
1904  
2008

## By Order of:

Dispatcher,  
Batt. 1,  
Batt. 1,  
Batt. 1,  
Div. 1,  
Div. 1,  
Batt. 1,  
Car. 6B, Chief Butler,  
Car. 6B, via FCU.

## Injuries:

~~REDACTED~~, superficial burns,  
~~REDACTED~~, chest pains.

Unit Citations to be submitted for Ladder Co. 10 and Engine Co. 10.

B.C. \_\_\_\_\_ ONE \_\_\_\_\_ D.C. \_\_\_\_\_ DIV. \_\_\_\_\_ PAC \_\_\_\_\_  
B.N. \_\_\_\_\_ L \_\_\_\_\_  
Lawrence M. Byrnes 1830  
TYPE FULL NAME TIME ARRIVED TYPE FULL NAME TIME ARRIVED



9F-24A (12/66) **REPORT - ADDITIONAL DATA**

**STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR**

TYPE REPORT			DATE AND TIME ALARM RECEIVED			BOX LOCATION		INCIDENT NUMBER		BIR DATE 10		IGNITION		STRUCTURE		AREA OF OCCUPANCY	
MONTH	DAY	YEAR	HOUR	MINUTE	SECOND	BOX NUMBER	INCIDENT NUMBER	BIR DATE 10	CAUSE OF FIRE	EQUIP. INVOLVED	MATERIAL TYPE	MATERIAL FORM	CONSTRUCTION	USE	STATUS	OCCUPANCY	
6	11	1991	18	27	1	8084	0562	00	3	41	23	45	61	1	591	1	53

DAMAGE		DETECTORS	
% DAMAGED	FLAME	SMOKE	WATER
21	1	1	0

PERFORMANCE		TYPE		POWER	
% DAMAGED	FLAME	SMOKE	WATER	PERFORMANCE	PERFORMANCE
21	1	1	0	0	0

**World Trade Center**

**STREET NAME** **WORLD TRADE CENTER**

**NUMBER (INCL. HYPHEN)** **110**

**SUPPLY** **110**

**IF MOBILE PROPERTY**

**TYPE** **YR.** **128** **MAKE** **140** **MODEL** **158** **V.I.N.** **220**

**UNIT** **PTS.** **243** **249** **255** **261** **267**

## OPERATIONS

## Unit Operations:

Eng. 10: Responded to the 93rd floor, stretched of 2½" hose, hooked up to standpipe in assisted Lad. 10 in search and size up 94th floors, used a fog nozzle to extinguish in electrical closets, assisted in evacuating civilians, connected to buildings standpipe.

Eng. 6: Responded to the 95th floor, stretched 2½" hose, stood fast, assisted in heat of fire area, connected to and supplied siamese.

Eng. 7: Responded to the 93rd floor, stretched 2½" hose from the "B" stairway, opened ECC, connected to standpipe and supplied.

Eng. 4: Responded to the 97th floor, hooked up 2½" hose, stood fast, assisted in heat of fire area.

Following Engine Companies reported to Lobby stood fast: Eng. 18, 205, 24, 10, and 2204100+2.

\*\* E-10 also used dry chem on 93

AC **ONE** DC **1830**

**Laurence M. Byrnes**

**TYPE FULL NAME** **TIME ARRIVED**



BF-24A (12/86) **REPORT - ADDITIONAL DATA**  
**STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY**

TYPE REPORT				DATE AND TIME ALARM RECEIVED				BOX LOCATION		INCIDENT NUMBER		BUILDING NO.		EQUIP. INVOLVED		KEY ROOM		MATERIAL TYPE		MATERIAL FORM		CONSTRUCTION		USE		STATUS		FLOOR CODE		OCCUPANCY		AREA CODE		MANAGER		OCCUPANCY		PERIOD REPORT	
MONTH	DAY	YEAR	HOUR	MINUTE	SECOND	BOX	NUMBER	INCIDENT	BUILDING	EQUIP.	KEY	MATERIAL	MATERIAL	CONSTRUCTION	USE	STATUS	FLOOR	OCCUPANCY	AREA	MANAGER	OCCUPANCY	PERIOD	REPORT																
6	11	91	18	27	1	8084	0562	00	3	41	23	43	61	1	591	1	93	81	52	09	01	0																	

ROAD		NUMBER (INCL. HYPHEN)		STREET NAME		TYPE		STATE	
1	1			WORLD TRADE CENTER					

DAMAGE		DETECTORS	
SPR. PERFORMANCE	% DAMAGED	FLAME	SMOKE
2	1	1	0

WORLD TRADE CENTER	
2	1

OCCUPANT (Driver)		ROOM/APT.	
1	1		

IF MOBILE PROPERTY		TYPE		YR.		MAKE		MODEL		V.I.N.		LICENSE		STATE	

UNIT		PTS.		243		249		255		261		261		273		279	

## OPERATIONS

## UNIT OPERATIONS cont:

- Lad. 10; Conducted primary search on floors 93, 94, 95, and 96, and 101. Unit split into 3 teams, located fire condition in electrical distribution closets, called for placement of hand lines, conducted opening up operations on 94th floor to check for fire extension, evacuated unknown member of civilians from floors 94 through 95 during initial operations,
- Lad. 1: Conducted primary search on 93rd floor, conducted secondary search on floors 94 to 101, proved to be negative, conducted survey on floors 81 through 92 for water damage to electrical closets due to hand-line use, negative.
- Lad. 15: Conducted primary and secondary search of floors 93 to 97, negative results,
- Lad. 8: Conducted examination of floors 92 to 101 for possible fire extension from electrical closets, negative, conducted secondary search on floors 94 and 95,
- Lad. 110: Performed secondary search of floors 96 through 110, negative results,

B.C.

ONE

D.C.

D.V.

Lawrence M. Byrnes

1830

TYPE FULL NAME

TIME ARRIVED

TYPE FULL NAME

TIME ARRIVED



BF-24A (12/85) 5-10-85 10-1-85 10-1-85

### REPORT - ADDITIONAL DATA

#### STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT		DATE AND TIME				BOX LOCATION		INCIDENT NUMBER		BUILDING NO.		IGNITION		STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION		
MOBILE	PROPERTY	DAY	MONTH	YEAR	HOUR	MINUTE	SECTION	BOX	NUMBER	FLYING	FLYING	MATERIAL TYPE	MATERIAL TYPE	CONSTRUCTION	USE	FLOOR CODE	OCCUPANCY	AREA CODE	WANNER	
6	11	19	01	18	27	1	2024	0562	00	3	41	23	43	61	1	591	1	93	81	52
World Trade Center																				

DAMAGE		DETECTORS	
PERFORMANCE	PERFORMANCE	PERFORMANCE	PERFORMANCE
2	1	1	1

STREET NAME		TYPE	
1	1	1	1

BUILDING		AREA	
STORIES	WIDTH	LENGTH	PERFORMANCE
99	0250	0250	1

OCCUPANT (Driver)		ROOM/APT.	
1	1	1	1

IF MOBILE PROPERTY		TYPE		YR.		MAKE		MODEL		V.I.N.		LICENSE		STATE	
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

UNIT		PTS.		243		249		255		261		261		273		279	
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

**OPERATIONS**

## Unit Operations Cont:

- Lad. 6: Conducted secondary search 66 floors 105 to 110, negative results, removed (2) civilians from stalled elevators on the 38th and 101st floors, no injuries to civilians, or damage to building.
- Lad. 20: Conducted secondary search of floors 98, 99, and 100 negative results.
- Lad. 131: Conducted search of floors 105 to 110, with negative results.

Field Communications Unit: Set up Communications/Command Post in Basement, WYC Command Post,

Battalion 2 supervised Lobby Staging Area,

Battalions 4, 6, and 7 operated on various floors with units so assigned,

Division 3 operated as Operations OIC on various floors.

Division 1 operated at the Command Post as CIC.

<p>BC. <i>Lawrence M. Byrnes</i></p> <p>ONE B.N. 1830</p> <p>TYPE FULL NAME      TIME ARRIVED</p>	<p>DC. <i>Harold Meyers</i></p> <p>HAROLD MEYERS</p> <p>TYPE FULL NAME      TIME ARRIVED</p>
---	--







BF-24A (12/88) Fire Incident Report

## REPORT - ADDITIONAL DATA

### STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT		DATE AND TIME ALARM RECEIVED				BOX LOCATION		INCIDENT NUMBER		BUILDING NO.		IGNITION		STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION	
MONTH	DAY	YEAR	HOUR	MINUTE	BOX NUMBER	BOX NUMBER	INCIDENT NUMBER	BUILDING NO.	CAUSE OF FIRE	CAUSE OF FIRE	CAUSE OF FIRE	CAUSE OF FIRE	CAUSE OF FIRE	CAUSE OF FIRE	CAUSE OF FIRE	CAUSE OF FIRE	CAUSE OF FIRE	CAUSE OF FIRE	
6	07	23	92	22	02	1	8093	0455	01	3	42	24	43	61	1	542	1	99	32

NUMBER (INCL. HYPHEN)		STREET NAME		TYPE	
57	68	WORLD TRADE CENTER		99	93

SPEC. PERFORMANCE		DAMAGE		DETECTORS	
SPR	PERFORMANCE	FLAME	SMOKE	PRESENT	TYPE
0	0	0	0	0	0

Port Authority NY/NJ

OCCUPANT (Driver)		ROOM/APT.	
94	103	114	123

IF MOBILE PROPERTY		TYPE		YR.		MAKE		MODEL		V.I.N.		LICENSE		STATE	
195	195	201	207	213	219	225	231	237	243	249	255	261	267	273	279
7	010	20	7	001	20	7	008	20	7	006	20	1	001	20	10002200
5	005	12	7	015	12	7	020	12							

OPERATIONS

Due to high electrical voltage (13000 volts confirmed, no water was used in initially, pending confirmation of power off at the electrical distribution panel.

Due to large floor area of the 5th floor-sub-basement, responding units were split into teams viz: Ladder Co. 10 and Engine 10 using the K13 stair to approach the fire area, Ladder 1 to use 2nd stairway-K12, to access the 5th sub. basement level. These units were tasked with pinpointing the fire area, an area of 200' x 400'.

A member of Ladder Co. 1 having found the fire situation in a very large power distribution panel, attempted to relay information to his officer. Prior to his transmission firefighter was struck by a shock 21st generated by the involved panel. Ladder 1 firefighter knocked unconscious required a concerted effort to remove to a separate safe area.

#### Unit Operations.

Engine 10 - Operated on 5th sub level, stretched a 2 1/2" hand line from the standpipe, operated when power off confirmation received. Company

Engine 7 - Operated on fire floor with line off standpipe, operated under B.C. Demarest, Batt. 4, extinguished fire, used dry chemical extinguishers on fire.

DC. *Lawrence M. Byrnes* 1 B.N. DC. *Lawrence M. Byrnes* DIV. *2*

Lawrence M. Byrnes 2205

TYPE FULL NAME TIME ARRIVED TYPE FULL NAME TIME ARRIVED

3F-24A (12/86) 5-10-40131-10000-1

**REPORT - ADDITIONAL DATA**

**STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY**

TYPE REPORT				DATE AND TIME ALARM RECEIVED				BOX LOCATION		INCIDENT NUMBER		BUILDING NO.		EQUIP INVOLVED		HEAT SOURCE		MATERIAL TYPE		MATERIAL FORM		CONSTRUCTION		USE		STATUS		FLOOR CODE		OCCUPANCY		AREA OF ORIGIN		FIRE EXTENSION		REVISED REPORT	
MONTH	DAY	YEAR	HOUR	MINUTE	ROUNDS	BOX NUMBER	INCIDENT NUMBER	BUILDING NO.	EQUIP INVOLVED	HEAT SOURCE	MATERIAL TYPE	MATERIAL FORM	CONSTRUCTION	USE	STATUS	FLOOR CODE	OCCUPANCY	AREA OF ORIGIN	FIRE EXTENSION	REVISED REPORT																	
6	07	23	92	22	02	1	8093	0455	01	3	42	24	43	61	1	642	1	99	32	63	00	99	0														

ADDRESS		STREET NAME		TYPE	
NUMBER (INCL. HYPHEN)	SUFFIX	STREET NAME	TYPE	SUFFIX	DIRECTION
57		WORLD TRADE CENTER			

DAMAGE		DETECTORS	
SPK. PERFORMANCE	% DAMAGED	FLAME	SMOKE
0	0	0	0

OCCUPANT (Driver)		ROOM/APT.	
NAME	ADDRESS	ROOM/APT.	ADDRESS
Port Authority NY/NJ	5th sub. base.	99	0200 0400

IF MOBILE PROPERTY		TYPE		YR.		MAKE		MODEL		V.I.N.		LICENSE		STATE	
TYPE	YR.	MAKE	MODEL	V.I.N.	LICENSE	STATE									
189	195	201	207	213	219	225									
237	UNIT	PTS.	243	249	255	261									
267	273	279													

**OPERATIONS**

Operation cont:

Engine 6 - Assisted Eng 7 in stretch of and operation of a 2½" line into fire area, performed search of area, overhauled as necessary,

Engine 55 - Operated with and relieved Eng. 7 on hand line on fire floor, took up hose lines,

Engine 4 - Under supervision of BC. Turnes, B2, transported injured member of Lad. 1 to ambulance on the B1 level of the fire building, relieved Eng. 10 on a hand line, overhauled, took up hand line,

Engine 24 - Transported Air Cylinders fire area under supervision of BC. Jackson,

Engine 3 - Ordered to and did provide air cylinders to operating units of the B5 level.

Engin

Stood Fast - Eng9Sat1, Engines 15, 28. 33, 34, 207/Maxi, 284/Sat.3,

BC *Lawrence M. Byrnes* 1

Lawrence M. Byrnes 2205

TYPE FULL NAME TIME ARRIVED

CRC 226

3

## OPERATIONS

Ladder 1- Operated at the B5 level, conducted search to pinpoint the fire area, conducted a primary search for possible employees trapped. FR. Amodio injured in explosion of 13000 volt distribution panel,

Ladder 10- Performed a search of the B5 level lto identify the fire area, and searched for possible trapped employees, gathered and used dry chemical extinguishers on the fire prior to power removal, overhauled as required,

Ladder 8- Performed a secondary search of the fire area, used dry chemical extinguishers, assisted in overhauling,

Ladder 6- Placed and used portable exhaust fans in stairwells to effect ventilation, took up,

Ladder 15- Supplied spare SCBA cylinders to staging area,

Ladder 20- Supplied spare SCBA cylinders to staging area,

B.C. Lawrence M. Byrnes 1 D.C. L 4  
B.N. 2205 DIV.  
Lawrence M. Byrnes 2205  
TYPE FULL NAME TIME ARRIVED  
CRC ☐ 228

BF-24A (12/86) Underwriting

### REPORT - ADDITIONAL DATA

#### STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT		DATE AND TIME ALARM RECEIVED				BOX LOCATION		INCIDENT NUMBER		IGNITION				STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION					
MONTH	DAY	YEAR	HOUR	MINUTE	BOROUGH	BOX NUMBER	INCIDENT NUMBER	BUILDING NO.	CAUSE ON ARRIVAL	EQUIP INVOLVED	HEAT FORM	MATERIAL TYPE	MATERIAL FORM	CONSTRUCTION	USE	FLOOR CODE	OCCUPANCY	AREA CODE	MANNER	OCCUPANCY	REVISED REPORT		
6	07	23	92	22	02	1	8093	0455	01	3	42	24	43	61	1	642	1	99	63	63	00	99	0

BORO		NUMBER (INCL. HYPHEN)		SUFFIX		STREET NAME		TYPE		SUFFIX DIRECTION	
1	1	1	1	1	1	1	1	1	1	1	1
						WORLD TRADE CENTER					

DAMAGE				DETECTORS			
SPK. PERFORMANCE	% DAMAGED	FLAME	SMOKE	WATER	PRESENT	TYPE	POWER
0	0	0	0	0	0	0	0

Podt Authority NY/NJ 5th sub. base.

OCCUPANT (Driver)		ROOM/APT.	
94	113	114	123

IF MOBILE PROPERTY		TYPE		YR.		MAKE		MODEL		V.I.N.		LICENSE		STATE	
189	195	201	207	213	219	225	231	237	243	249	255	261	267	273	279

OPERATIONS

Operation cont:

Rescue 1- Company split to perform several operations-

1. Assisted in administering first aid to Injured firefighter,
2. Conducted secondary search of fire area, negative,
3. Used Thermal Camera to check for possible fire extension,

Rescue 2- Assisted (2) civilian electricians (with SCBA's) to confirm power off in electrical panel, relayed confirmation of power off to Command Post. Assisted in hand line operation, assisted in VES of fire floor.

Chief Officers present:

DAC R. Palmer, CW Duty

DC. R. Manson Div. 1,

B.C. L. Byrnes Batt. 1,

B.C. W. Demarest Batt. 4,

B.C. R. Turner, Batt. 2,

B.C. Jackson Batt. 33,

B.C. Costa Batt. 7,

B.C. Miccio Batt. 6,

B.C. Nardone Batt. 9.

B.C. Ross Batt. 31.

BC. Lawrence M. Byrnes

1

B.N.

DC.

DIV.

PAK

CRC 228

TYPE FULL NAME

TIME ARRIVED

TYPE FULL NAME

TIME ARRIVED



BF-24A (12/85) REPORT — ADDITIONAL DATA

STRUCTURAL FIRE TRANSPORTATION FIRE NON STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT		DATE AND TIME		BOX LOCATION		ALARM RECEIVED		BOX NUMBER		ADDITIONAL		CAUSE OF FIRE		MATERIALS		STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION	
MONTH	DAY	YEAR	TIME	BOX	LOCATION	ALARM	RECEIVED	BOX	NUMBER	ADDITIONAL	CAUSE OF FIRE	MATERIALS	STRUCTURE	AREA OF ORIGIN	FIRE EXTENSION						
6	23	92	0002	1	808B	0455	01	3	42	24	48	51	1	54	1	99	63	53	00	99	0

DAMAGE		DETECTORS		STREET NAME		TYPE		BUILDING			
SPR. PERFORMANCE	% DAMAGED	FLAME	SMOKE	WATER	PRESSURE	TYPE	POWER	PERFORMANCE	STORIES	WIDTH	LENGTH
0	0	0	0	0	0	0	0	0	99	0200	0400

Port Authority NY/NJ

OCCUPANT (Driver)

ROOM/APT.

IF MOBILE PROPERTY

TYPE	VIN.	MAKE	MODEL	VIN.	LICENSE	STATE
180	195	201	207	213	219	225
237	UNIT	PTS.	243	249	255	261
267	273	279				

OPERATIONS

## Operations cont:

Greater alarms transmitted due to magnitude of fire area involved, potential for smoke and heat problems, numbers of employees in building need to supply and relieve operating personnel.

Injuries: FF. Amodio, Lad. 1, concussion, removed to Beckman Hosp.,  
 FF. Cancel, Lad 10, granted ML.,  
 FF. Hanson, Lad. 10, granted ML.,  
 FF. Selletti, Lad. 10, Granted ML.

Note: Staff and employees of the New York Port Authority provided excellent guidance and assistance. Help provided included mechanical, ventilation, electrical distribution disciplines which made for a much easier fire ground operation.

B.C. Lawrence M. Byrnes 1 R.M. DC DIV. 1  
 TYPE FULL NAME TIME ARRIVED TYPE FULL NAME TIME ARRIVED  
 2005



# REPORT -- STRUCTURAL FIRE

[illegible]

F-24A (12/86) 1542-861531-0029-N

## REPORT -- ADDITIONAL DATA

## STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT				DATE AND TIME ALARM RECEIVED				BOX LOCATION		INCIDENT NUMBER		BUILDING NO.		IGNITION		STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION																																	
MONTH	DAY	YEAR	HOUR	MINUTE	BOROUGH	BOX NUMBER	INCIDENT NUMBER	BUILDING NO.	COND. ON ARRIVAL	EQUIP. INVOLVED	HEAT FORM	MATERIAL TYPE	MATERIAL FORM	CONSTRUCTION	USE	STATUS	FLOOR CODE	OCCUPANCY	AREA CODE	MANNER	OCCUPANCY	REVISED REPORT																															
6	11	10	9	23	01	1	8084	0648	00																																												
<table border="1"> <thead> <tr> <th colspan="2">ADDRESS</th> <th colspan="2">BORO</th> <th colspan="2">NUMBER (INCL HYPHEN)</th> <th colspan="2">SUFFIX</th> <th colspan="2">STREET NAME</th> <th colspan="2">TYPE</th> <th colspan="2">SUFFIX</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>WORLD TRADE CENTER</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>																						ADDRESS		BORO		NUMBER (INCL HYPHEN)		SUFFIX		STREET NAME		TYPE		SUFFIX		1	1								WORLD TRADE CENTER								
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1	1								WORLD TRADE CENTER																																												
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OCCUPANT (Driver)		ROOM/APT.																																																			
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UNIT		PTS.																																																			

## OPERATIONS

E-7 Stretched precautionary line from standpipe.  
 F.S.D. for World Trade Center - Mr. Mike Hurly.  
 O.E.M. Lt. Wilson.

F.M. Kregler #361 responded on BFI's own knowledge of prior suspicious activity. Job #11201.

B.C. John M. Akerman 01 B.N. 23:07  
 TYPE FULL NAME TIME ARRIVED  
 D.C. \_\_\_\_\_ DIV. \_\_\_\_\_  
 TYPE FULL NAME TIME ARRIVED  
 PAGE 2 OF

## Appendix E

### SIGNIFICANT FIRES IN WTC 2

---

#### Significant fire incidents occurring in WTC 2

Significant Fire	Incident Date	Fire Location	# Sprinklers Activated	# Standpipes Activated	Cause of Fire	Material Ignited
1	5/19/75	Floor 32	-	3	Incendiary	Trash/waste
2	4/12/77	Duct work over grill in restaurant on floor 107	2		None listed	Duct work
3	3/22/93	Fan motor room on floor 108	2		Mechanical failure	Not classified





REPORT	LOCATION	INCIDENT	DATE AND TIME	ALARM RECEIVED	CONT'D
E.27	Stretched line to 32nd fl.	Operated to extinguish remaining fire.			
L.10	Forced door to 32nd fl. stairway "C".	Operated house hose line to assist in making search. Then operated on 32nd fl. continuing search. Made examination. Then assisted in overhauling. Then relieved by L.1.			
L.1	Made search of floors 13, 34, and 35.	Then made examination at 33rd fl. for extension of fire.			
E.10 (Spec. called)	Ordered to stand fast at 31st fl.	Then relieved on hose lines 32nd fl. to assist in overhauling. Then took up lines of E.6 & 7.			
L.8 (Spec. called)	Assisted in making secondary search of office occupancies 32nd fl.	Then relieved L.10 overhauling fire.			
Batt.4	Supervised units initially operating on the 32nd fl.				
Batt.1	Ordered to assist in supervision in fire area.	Then relieved Batt.4 and supervised secondary search, examination and overhauling.			
E.9	Ordered to stand fast.	Then made search of 44th fl.			
E.55	Relieved operating units on the 32nd fl.	where necessary.			
E.24	Made examination 20th, 40th and 60th fls.	(2 WTC)			
E.17	Made search examination 20, 40th, 60th fls	(1 WTC)			
L.15	Made search of perimeter office occupancies 32nd fl.	Then made secondary search and examination of 44th fl. Then made final examination of 31st fl. core area.			
Batt.32	Supervised examination in #1 WTC.	Then supervised examination in #2 WTC 44th and 60th fls.			
Mar. 1	Stretched line to gate and ordered to stand fast.				
Res. 1	Administered oxygen to Fr. O'Neill E.7.	Then made examination for fire extension around perimeter of fire area and overhauled 31st fl.			
Superpumper System	Superpumper and Sat. 2	ordered to return to qtr.			
Sat. 1	ordered to stand fast at hook up site	then to qtr/relieve sat. 1st of sat. 1st (Sat. 1)			
FCU	Established Field Hdqts.	monitored HT circuits. Transmitted Progress reports. Maintained central band.			
MSU	Serviced Units,	Exchanged 30 cylinders.			
Time of Special Calls:	2150 hrs.				
2nd alarm:	2154 hrs.				
under control:	2257 hrs.				
Chief Officers Operating:	BC Votruba, Batt. 1	BG Bagley, Bn			

REPORT - STRUCTURAL FIRE																	
FOR FIRE RECORDS USE ONLY		DATE AND TIME ALARM RECEIVED				DURATION OF INCIDENT		LOCATION		REPORT							
TYPE REPORT	MONTH	DAY	YEAR	CD. NO.	HOUR	MINUTE	HOURS	MINUTES	HOW REPORTED	INITIAL ALARM	HIGHEST ALARM	BOROUGH	BOX NUMBER	ADMIN. COMPANY	REPORT NUMBER	FILING BATTALION	BADGE NUMBER
1	04	12	77	1	1315	00 30	1	1	0	1	0070	5	006	0113	0058	01	999

AIDED AND CASUALTIES				RESP.	EXTINGUISHMENT	INVESTIGATION	STRUCTURE	AREA FIRE ORIGIN	
CIVILIANS									
EVAQUATED	FIRST AID	INJURED	KILLED	UNINJURED	INJURED	CAUSE	CONSTRUCT	USE	STATUS
00	00	00	00	00	00	02 00 0	1	15	10

ADDRESS		NUMBER		STREET		BOROUGH	
2		World Trade Center		Man		Man	

BUILDING		STORIES		AREA	
110		400 x 400		400 x 400	

NAME OF OCCUPANT		ROOM/APT. NO.	
Mr. Sarnelli FSD		107	

LEFT IN CHARGE	
Mr. Sarnelli FSD	

TYPE	NO.	SECT.	PIS.
7	001	0	05

## OPERATIONS

On arrival found fire to be extinguished prior to arrival ;

Fire was located in duct work over grills in in reataurant on 107 th floor, Bn. 1 notified dispatcher to notify board of Health of possible food contamination from heat smoke and gases in restaurant.

E. 6 Took rolled ups to 107 floor, stretched line and stood fast.

L. 1 Made necessary search and investigation.

F.P. 2 on scene replaced two sprinkler heads.

by William M. Feehan 1  
 ABC William M. Feehan 1318  
 TYPE FULL NAME TIME OF ARRIVAL TYPE FULL NAME



BT-24 (1/2/00) 0130P-HUGB-N

INCIDENT LOCATION				DATE AND TIME				INCIDENT DURATION				BOX LOCATION				REPORT				COMPANIES RESPONDING				HAZ MAT				SPECIAL USE																																			
COMMUNITY BOARD				MONTH DAY YEAR				HOURS MINUTES				MINUTES				INITIAL ALARM				BOX NUMBER				FILING NUMBER				BATTALION				RANGE NUMBER				ENR SO				LADDER				OTHERS				CLASS				AMOUNT				HEAT EQUIP. APL				REVISOR REPORT			
1				01 5 01 03 22 93				08 39				00 40				10 1				1 8087				0286				0058				01 620				03 02				01 00				0000				00 00				00 00				00 00							

AIDED AND CASUALTIES				EXTIN-GUISHMENT				IGNITION				STRUCTURE				FIRE ORIGIN				FIRE EXTENSION				DAMAGE				DETECTORS																																																			
CIVILIANS				EQUIP INVOLVED				MATERIAL TYPE				MATERIAL FORM				USE				STATUS				FLOOR CODE				OCCUPANCY				AREA OR ORIGIN				MANNER				OCCU PLACES				NO BLDG				% DAMAGED				FLAME				SMOKE				WATER				PRESENT				TYPE				POWER				FOR INVESTIGATION			
00 00 00 00				01 21 21 92				19 27 99				99 59				1591				59				50				61				00				01				0				19				9				1				1				2				1				0											

FIRST AID				KILLED				UNFARMED				SPR PEPE				COND ON ARRIVAL				EQUIP INVOLVED				HEAT FORM				MATERIAL TYPE				MATERIAL FORM				USE				STATUS				FLOOR CODE				OCCUPANCY				AREA OR ORIGIN				MANNER				OCCU PLACES				NO BLDG				% DAMAGED				FLAME				SMOKE				WATER				PRESENT				TYPE				POWER				FOR INVESTIGATION			
00 00 00 00				01 21 21 92				19 27 99				99 59				1591				59				50				61				00				01				0				19				9				1				1				2				1				0																															

BORO				NUMBER (INCL HYPHEN)				STREET NAME				TYPE				SUFX DIRECT			
1				2				WTC				128				146			

NAME OF OCCUPANT				ROOM/APT.				MAKE				LEFT IN CHARGE				MODEL				SERIAL NUMBER				POWER			
FEELY				ACS108				YR				212				284				284				284			

EQUIPMENT INVOLVED IN IGNITION				ITEM				UNIT				PTS																																			
5				010				05				5				006				05				7				001				05				5				007				05			

OPERATIONS

Upon arrival at Box 8087 found smoke condition on the 108th floor caused by a overheated bearing in a fan motor room ACS-108-4. Smoke Det. caused 2 sprinkler heads to go off. Units operated VIZ:

E10-Hooked up to standpipe on the 108th fl. stood fast, then up.

L10-Made necessary search and examination, found cause of smoke condition, checked for extension found neg. Then up.

E6-Assisted L10 in search, then up.

1

B.C. Gordon Symon

BN. 0844

D.C.

PAGE 1 OF 3

TYPE FULL NAME

WHITE - FIRE RECORD

YELLOW - BATTALION

PINK - REFERRAL

GOLD - ADMINISTRATIVE COMPANY

F-24A (12/86) 15H2-861531-002B-N

## REPORT — ADDITIONAL DATA

## STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT		DATE AND TIME ALARM RECEIVED				BOX LOCATION		INCIDENT NUMBER	BUILDING NO.	IGNITION				STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION		REVISED REPORT																																				
MONTH	DAY	YEAR	HOUR	MINUTE	BOROUGH	BOX NUMBER	COND. ON ARRIVAL			EQUIP. INVOLVED	HEAT FORM	MATERIAL TYPE	MATERIAL FORM	CONSTRUCTION	USE	STATUS	FLOOR CODE	OCCUPANCY	AREA CODE		MANNER	OCCUPANCY																																		
6	05	22	93	0839	1	8087	0058	00																																																
<table border="1"> <thead> <tr> <th colspan="2">ADDRESS</th> <th colspan="2">STREET NAME</th> <th>TYPE</th> <th>SUITE/DIRECTION</th> </tr> </thead> <tbody> <tr> <td>2</td> <td></td> <td>WTC</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>																					ADDRESS		STREET NAME		TYPE	SUITE/DIRECTION	2		WTC																											
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UNIT		PTS		243		248		255		261		261		273		279																																								

## OPERATIONS

E7-Assisted E10 in stretching line, then up.  
 L1-Assisted L10 in search, then up.

1

BC. Gordon Symon 1st B.N. DC. \_\_\_\_\_ DIV. \_\_\_\_\_

TYPE FULL NAME Gordon Symon TIME ARRIVED 0844 TYPE FULL NAME \_\_\_\_\_ TIME ARRIVED \_\_\_\_\_

PAGE 2 OF 2



## Appendix F

### **FIRES WITH STANDPIPES AND SPRINKLERS IN WTC 1 AND WTC 2**

---

Additional fire incidents involving the deployment of standpipe lines in WTC 1 and WTC 2:

- Fires involving the use of one standpipe line and the activation of one sprinkler (4 in total)

## REPORT — STRUCTURAL FIRE

BF 24 (1/80)

TYPE REPORT		INCIDENT LOCATION		DATE AND TIME		ALARM RECEIVED		INCIDENT DURATION		BOX LOCATION		REPORT		COS. RESP.					
COMMUNITY BOARD	ADMON. COMPANY	BLOCK NUMBER	MONTH	YEAR	HOUR	MINUTE	HOURS	MINUTES	INITIAL ALARM	HIGHEST ALARM	BOX NUMBER	REPORT NUMBER	BATTALION	ENGINE NUMBER	LADDER				
1	01	5	006	0113	09	29	81	0904	01	10	6	1	1	8087	0287	01	531	03	3

AIDED AND CASUALTIES		EXTINGUISHMENT		MATERIAL TYPE		MATERIAL FORM		CONSTRUCT.		STATUS		RUE DAMAGE		FLOOR CODE		RM. AREA CODE		OCCUPANCY		MANNER OF		OCCUPANCY'S		FIRE EXTENSION		SPECIAL USE	
EVACUATED	FIRST AID	INJURED	KILLED	UNINJURED	CODE	SPRINKLER	STANDPIPE	TEAM USED	EQUIP INVOLVED	HEAT FORM	MATERIAL TYPE	CONSTRUCT.	USE	STATUS	RUE DAMAGE	FLOOR CODE	RM. AREA CODE	OCCUPANCY	MANNER OF	OCCUPANCY'S	NO. BLDGS.	WITHIN BLDG.	NO. BLDGS.	SMOKE DETECTORS	NO. BLDGS.	SPECIAL USE	
00	00	00	00	01	5	01	01	3	98	00	67	44	21	1	15	1	1	97	54	50	00	01	0	6			

ADDRESS		STREET NAME		TYPE		BUILDING		AREA		LEFT IN CHARGE	
NUMBER	STREET	STREET NAME	TYPE	STREET NAME	TYPE	BUILDING	AREA	LEFT IN CHARGE	LEFT IN CHARGE	LEFT IN CHARGE	LEFT IN CHARGE
2	World Trade Center	World Trade Center	Office	World Trade Center	Office	99	210x210	Mr. Barnelli (FSD)	Mr. Barnelli (FSD)	Mr. Barnelli (FSD)	Mr. Barnelli (FSD)

EQUIPMENT INVOLVED IN IGNITION		ROOM, APT. NO.		MAKE		MODEL		SIN		POWER	
YR	MAKE	MODEL	SIN	POWER	YR	MAKE	MODEL	SIN	POWER	YR	MAKE
1988	5	010	10	5	006	05	7	001	10	7	015

UNIT		PTS.		ITEM		OPERATIONS	
UNIT	PTS.	ITEM	OPERATIONS	UNIT	PTS.	ITEM	OPERATIONS
5	010	10	5	006	05	7	001

Responded to alarm box 8087. Upon arrival found light fire, medium smoke conditions in storage room (office records) at above address and location. Transmitted signal 10-75. Fire had activated 1 sprinkler head. Fire was confined to and extinguished in said room.

Eng.10- Stretched standpipe line, extinguished fire, washed down.

Eng.6- Relieved Eng.10 on line.

Lad.1- Searched, found fire, shut down sprinkler system, reactivated system, checked for extension, overhauled.

B.C. \_\_\_\_\_ BN. \_\_\_\_\_ D.C. \_\_\_\_\_ DIV. \_\_\_\_\_ PAGE 1 OF 2

TIME OF ARRIVAL \_\_\_\_\_ TYPE FULL NAME \_\_\_\_\_

ADMINISTRATIVE COMPANY

# REPORT - STRUCTURAL FIRE

BF-24 (1000-17234-60855.1 (83))

TYPE REPORT				INCIDENT LOCATION				DATE AND TIME				ALARM RECEIVED				INCIDENT DURATION				BOX LOCATION				REPORT				COS. RESP.																							
COMMUNITY BOARD				ADMIN. COMPANY				MONTH				DAY				HOURS				MINUTES				BOX NUMBER				REPORT NUMBER				FILING BATTALION				ENG. ST. NAME				LADDER											
1	01	5	010	0024	08	15	86	04	10	01	10	7	1	0	1	3084	0216	01	572	03	2																														
AIDED AND CASUALTIES				EXTINGUISHMENT				MATERIAL TYPE				MATERIAL FORM				CONSTRUCT				STATUS				BLOG DAMAGE				FLOOR CODE				RM AREA CODE				OCCUPANCY				MANNER OF				FIRE EXTENSION				SPECIAL USE			
CIVILIANS				SPRINKLER				EQUIP INVOLVED				HEAT FORM				FACOR				USE				BLOG DAMAGE				FLOOR CODE				RM AREA CODE				OCCUPANCY				MANNER OF				FIRE EXTENSION				SPECIAL USE			
KILLED				SPRINKLER				EQUIP INVOLVED				HEAT FORM				FACOR				USE				BLOG DAMAGE				FLOOR CODE				RM AREA CODE				OCCUPANCY				MANNER OF				FIRE EXTENSION				SPECIAL USE			
UNINFORMED				SPRINKLER				EQUIP INVOLVED				HEAT FORM				FACOR				USE				BLOG DAMAGE				FLOOR CODE				RM AREA CODE				OCCUPANCY				MANNER OF				FIRE EXTENSION				SPECIAL USE			
INJURED				SPRINKLER				EQUIP INVOLVED				HEAT FORM				FACOR				USE				BLOG DAMAGE				FLOOR CODE				RM AREA CODE				OCCUPANCY				MANNER OF				FIRE EXTENSION				SPECIAL USE			
FIRST AID				SPRINKLER				EQUIP INVOLVED				HEAT FORM				FACOR				USE				BLOG DAMAGE				FLOOR CODE				RM AREA CODE				OCCUPANCY				MANNER OF				FIRE EXTENSION				SPECIAL USE			
EVACUATED				SPRINKLER				EQUIP INVOLVED				HEAT FORM				FACOR				USE				BLOG DAMAGE				FLOOR CODE				RM AREA CODE				OCCUPANCY				MANNER OF				FIRE EXTENSION				SPECIAL USE			
NUMBER				STREET NAME				TYPE				SAFETY				BUILDING				AREA				250x250																											
1				World Trade Center				1				130				94																																			
NAME OF OCCUPANT				EQUIPMENT INVOLVED IN IGNITION				YR.				MAKE				MODEL				POWER																															
Windows Of The World Restaurant								134				134				151				187																															
UNIT				PTS.				ITEM				194				200				212				217																											
5				010				05				5				006				05				5				007				05				7				001				05							

Upon arrival found alarm for fire in dumpster on 106 th floor. Sprinkler head controlled fire.

Eng. 10 Supplied standpipe system, stretched handline & extinguished fire.

Eng. 6 Supplied standpipe system & assisted Eng. 10.

Eng. 7 Made search & examination of floors 98-105.

Lad. 10 Made necessary search, examination & overhaul of fire area.

Lad. 1 Made necessary search & examination of 106 & 107 floors.

B.C. *Kenneth P. Markgraf* 1st BN. D.C. *0415*

Kenneth P. Markgraf

TYPE FULL NAME

TIME OF ARRIVAL

PAGE 1 OF 1



NIST NCSTAR 1-4A, WTC Investigation



TYPE REPORT		INCIDENT LOCATION		DATE AND TIME ALARM RECEIVED		INCIDENT DURATION		HOW REPORTED		INITIAL ALARM		BOX LOCATION		REPORT NUMBER		INCIDENT NUMBER		FILING		PAGE NUMBER		FIRE SO		ADDITIONAL		COMPANIES RESPONDING		HAZ MAT		SPECIAL USE		REVERSE REPORT	
1		01 5 010 03 24 91		2104 01 25 81		1 7 1		8084 0332		0406 01 380 07 05 05		000 0																					

AIDED AND CASUALTIES		EXTIN GUISHMENT		IGNITION		STRUCTURE		FIRE ORIGIN		FIRE EXTENSION		DAMAGE		DETECTORS	
CIVILIANS		FIRE		MATERIAL TYPE		MATERIAL FORM		MATERIAL FORM		MATERIAL FORM		MATERIAL FORM		MATERIAL FORM	
KILLED		WOUNDED		KILLED		WOUNDED		KILLED		WOUNDED		KILLED		WOUNDED	
FIRE		FIRE		FIRE		FIRE		FIRE		FIRE		FIRE		FIRE	

STREET NAME		TYPE		SUITE		FLOOR		FLOOR CODE		OCCUPANCY		AREA OF ORIGIN		MANAGER		NO. OF BLDG.		% DAMAGED		FLAME		SMOKE		WATER		TYPE		PERFORMANCE		FOR INVESTIGATION	
World Trade Center		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1	

NUMBER (INCL. HYDRA)		STREET NAME		TYPE		SUITE		FLOOR		FLOOR CODE		OCCUPANCY		AREA OF ORIGIN		MANAGER		NO. OF BLDG.		% DAMAGED		FLAME		SMOKE		WATER		TYPE		PERFORMANCE		FOR INVESTIGATION	
1		World Trade Center		1		1		1		1		1		1		1		1		1		1		1		1		1		1		1	

NAME OF OCCUPANT		ROOM/APT.		VR.		NAME		EQUIPMENT INVOLVED IN IGNITION		ITEM		UNIT		PTS		TIME		BY		ORDER OF	
NYPD		5 th. Floor																			

NAME OF OCCUPANT		ROOM/APT.		VR.		NAME		EQUIPMENT INVOLVED IN IGNITION		ITEM		UNIT		PTS		TIME		BY		ORDER OF	
NYPD		5 th. Floor																			

NAME OF OCCUPANT		ROOM/APT.		VR.		NAME		EQUIPMENT INVOLVED IN IGNITION		ITEM		UNIT		PTS		TIME		BY		ORDER OF	
NYPD		5 th. Floor																			

NAME OF OCCUPANT		ROOM/APT.		VR.		NAME		EQUIPMENT INVOLVED IN IGNITION		ITEM		UNIT		PTS		TIME		BY		ORDER OF	
NYPD		5 th. Floor																			

NAME OF OCCUPANT		ROOM/APT.		VR.		NAME		EQUIPMENT INVOLVED IN IGNITION		ITEM		UNIT		PTS		TIME		BY		ORDER OF	
NYPD		5 th. Floor																			

NAME OF OCCUPANT		ROOM/APT.		VR.		NAME		EQUIPMENT INVOLVED IN IGNITION		ITEM		UNIT		PTS		TIME		BY		ORDER OF	
NYPD		5 th. Floor																			

NAME OF OCCUPANT		ROOM/APT.		VR.		NAME		EQUIPMENT INVOLVED IN IGNITION		ITEM		UNIT		PTS		TIME		BY		ORDER OF	
NYPD		5 th. Floor																			

NAME OF OCCUPANT		ROOM/APT.		VR.		NAME		EQUIPMENT INVOLVED IN IGNITION		ITEM		UNIT		PTS		TIME		BY		ORDER OF	
NYPD		5 th. Floor																			

NAME OF OCCUPANT		ROOM/APT.		VR.		NAME		EQUIPMENT INVOLVED IN IGNITION		ITEM		UNIT		PTS		TIME		BY		ORDER OF	
NYPD		5 th. Floor																			

NAME OF OCCUPANT		ROOM/APT.		VR.		NAME		EQUIPMENT INVOLVED IN IGNITION		ITEM		UNIT		PTS		TIME		BY		ORDER OF	
NYPD		5 th. Floor																			

### Chief officers & Officials on Scene

D.C. Hassett	MSFC
B.C. Casey	Battalion 1
B.C. Demerest	Battalion 4
FM Corbett	#224
FSD Raggio	NYPA
Sgt. Blocker	NYPA PD.

2

John B. Casey

TYPE-FULL NAME

11

TIME OF ARRIVAL

TYPE FULL NAME  
770001~~TIME OF ARRIVAL~~

## WHITE-FIRE RECORD

**YELLOW—BATTALION**

**PINK—REFERRAL:**

GOVERNMENT ADMINISTRATIVE COMPANY

5

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## Appendix G

### **FIRES WITH STANDPIPES IN WTC 1 AND WTC 2**

---

Additional fire incidents involving the deployment of standpipe lines in WTC 1 and WTC 2:

- Fires involving the use of one standpipe line (27 in total)

DATE AND TIME ALARM RECEIVED										LOCATION				REPORT	
ALARM	DAY	YEAR	HOUR	MINUTE	SECONDS	ALARM	INCIDENT	ALARM	INCIDENT	ALARM	INCIDENT	ALARM	INCIDENT	ALARM	INCIDENT
1	05	24	73	0310	01	20	21	1	0067	7	010	0033	0068	01	365

CIVILIANS										RESP.		EXTINGUISHMENT		INVESTIGATION		STRUCTURE		AREA FIRE ORIGIN					
INJURED	DEAD	PROPERTY	INJURED	DEAD	PROPERTY	INJURED	DEAD	PROPERTY	INJURED	DEAD	PROPERTY	INJURED	DEAD	PROPERTY	INJURED	DEAD	PROPERTY	INJURED	DEAD	PROPERTY			
00	00	00	00	00	00	05	2	6	00	01	0	64			1	15	1	1	0	09	47	50	00

ADDRESS 1 World Trade Center Man, Man  
NUMBER STREET BOROUGH

BUILDING 110 570 x 970  
STORIES AREA  
(Below Grade)

World Trade Center  
NAME OF OCCUPANT

Mickey Seebuck -  
Superv. Engr.

LEFT IN CHARGE  
PA - Lt. Newman #21

5	006	0	10	5	007	0	02	5	027	0	02	5	010	0	02	7	010	0	10	7	001	0	10
---	-----	---	----	---	-----	---	----	---	-----	---	----	---	-----	---	----	---	-----	---	----	---	-----	---	----

5 TYPE NO. SECT. FIS

#### OPERATIONS

On arrival found fire in elevator car (J3) - B2 level, -J-4 area - Heavy smoke condition in adjacent areas, B-2 level. Light smoke cond. in Concourse, on 19th, 38th & 78th floors and various other floors. Fire was confined and extinguished with 1 house line and one F.D. hand line from standpipe. Areas involved with smoke were searched, occupant assisted where required. Operations as follows:  
E6 - stretch line from standpipe J-4 area, ext. fire in elev. & shaft.  
E7 - assist E6 in stretching handline.  
E10 - made search upper floors - 77th to 79th (light smoke cond.)  
E27 - made search upper floors - 38th fl. & vic.  
L10(L18) - report to CP - search & examination of concourse area.  
L1 - forced elev. door B-2 level, examine aar, overhaul.  
B2 - supervise operations of E6 & L1 opening elev. car door & ext. fire B-2 ~~IVV~~ level (284)

BC Frank L. Picariello 0312 BN. DC John J. Hart 1  
TYPE FULL NAME TIME OF ARRIVAL TYPE FULL NAME TIME OF ARRIVAL  
DIV PAGE 1 OF 1



DATE & TIME		ALARM		RECEIVED		LOCATION		REPORT	
MONTH	DAY	YEAR	HOUR	MINUTE	HOURS	MINUTES	ROW	INITIAL	ALARM
06	15	73	2015	00	45	21	01	0067	7 010

AIDED AND CASUALTIES		RESP.		EXTINGUISH		INVEST.		STRUCTURE		AREA FIRE ORIGIN	
CIVILIANS	INJURED	DECEASED	PROPERTY	CAUSE	CAUSE	CAUSE	CAUSE	CAUSE	CAUSE	CAUSE	CAUSE
00	00	00	00	01	05	2	9	00	01	1	64

ADDRESS		Manhattan		Unoccupied		6518	
NUMBER	STREET	BOROUGH	NAME OF OCCUPANT	POC	NAME OF OCCUPANT	POC	POC
1	World Trade Center	Manhattan	Unoccupied	6518	Security Guards	Left in Charge	

COMPANY		NO		SECT		FIS	
5	006	0	10	7	010	0	10

## OPERATIONS

Upon arrival found fire in rubbish in room 6518 On the 65th. floor, fire confined and extinguished. Fire was in an unoccupied office of bldg E.6: Stretched line off standpipe extinguished. fire, had taken rolled ups to 65th. floor.

L.10: Overhauled, made necessary examination, ventilated.

On Scene: Fire Patrol #2.

Injured Member: Fr. 1st. Vincent Segretto #9050 Lad. 10, twist right knee.

Dr. Schwartz notified. No time lost.

TYPE FULL NAME		TIME OF ARRIVAL		TYPE FULL NAME		TIME OF ARRIVAL	
Louis Pike	2017	John J. Hart	2017				

FIRE RECORDS

TYPE	NO.	SECT.	PTS.	104	101.71	77.10	10.22	20.38
6	006	5	6	007	20	5	02	12
7	015	10	20	5	02	12	7	010
20	5	02	12	7	010	20	5	001
20	5	001	20	7	008	20	7	008

10/721-100-1020741707

## REPORT - STRUCTURAL FIRE

FOR FIRE RECORDS USE ONLY		DATE AND TIME ALARM RECEIVED				DURATION OF INCIDENT		LOCATION				REPORT						
		MONTH	DAY	YEAR	CD. NO.	HOUR	MINUTE	HOURS	MINUTES	HOW REPORTED	INITIAL ALARM			HIGHEST ALARM	BOROUGH	BOX NUMBER	ADMIN. COMPANY	BLOCK NUMBER
1	10	09	75	1	0308	00	25	4	1	01	00	70	7	010	0033	0181	01	445

AIDED AND CASUALTIES				RESP.	EXTINGUISHMENT	INVESTIGATION	STRUCTURE	AREA FIRE ORIGIN													
CIVILIANS																					
EVACUATED	FIRST AID	INJURED	KILLED	UNIFORMED INJURED	ENG. CO. MINUTE	LADDERS	CODE	NO. SPRINKLERS OPEN	STANDPIPE SYSTEMS USED	CAUSE	FIRE MARSHAL	CONSTRUCT	USE	STATUS	PILOT TO FLOOR	WANGER TO FLOOR	FLOOR CODE	ROOM OR AREA CODE	COMPANY	MANNER OF EXTINCTION	
00	00	00	00	00	03	2	6	00	01	16	1	15	0	0	0	0	0	0	0	0	0

ADDRESS <b># 2 World Trade Center</b> <b>Manhattan</b> NUMBER <b>110</b> STREET <b>250x250</b> BUILDING <b>110</b> BOROUGH <b>250x250</b> (Second Card) STORIES AREA	<b>Port of N.Y. Authority</b> NAME OF OCCUPANT <b>Fire Safety Director</b> ROOM/API. NO. LEFT IN CHARGE
---	---

COMPANY	NO.	SECT.	PTS.
5	006	0	05
7	010	0	05

**OPERATIONS**

Responded to Class 3-70-4

Upon arrival found fire in planter on 32 floor there confined and ~~extinguished~~ extinguished as follows.

E.6 - Carry in rolled up ladders, hook up to S/P outlet, stretch line and operate on and extinguish fire and necessary wash down.

L.10 - Make necessary examination of 32 and 33 floors and overhaul burnt debris on 32 floor.

S.C. Fergus J. McDermott #2 1st D.C. BN. 2 DIV. 1 PAGE 1 OF 1

TYPE FULL NAME TIME OF ARRIVAL TYPE FULL NAME TIME OF ARRIVAL

FOR FIRE RECORDS USE ONLY		DATE AND TIME ALARM RECEIVED										DURATION OF INCIDENT		LOCATION				REPORT	
TYPE REPORT		MONTH	DAY	YEAR	CO NO.	HOUR	MINUTE	HOURS	MINUTES	HOW REPORTED	INITIAL ALARM	HIGHEST ALARM	BOROUGH	ALARM	INCIDENT	REPORT			
1	03	09	76	1	1603	00	30	4	1	0	1	0070	5	006	0010	0124	04	280	

AIDED AND CASUALTIES										RESP.		EXTINGUISHMENT		INVESTIGATION		STRUCTURE		AREA FIRE ORIGIN		
CIVILIANS					FIRE					CAUSE		FIRE MARSHAL		CONSTRUCT		USE		STATUS		
EVAQUATED	FIRST AID	INJURED	KILLED	UNIFORMED	ENG. SO.	MARINE	LADDERS	NO SPRINK	TEST OPEN	STANDPIPE	INVESTIGATED	CAUSE	FIRE MARSHAL	CONSTRUCT	USE	STATUS	PROPERTY	TO RISK	CONSTRUCT	
00	00	00	00	00	03	2	6	00	01	1	64		1	15	1	1	0	20	10	50

ADDRESS **1 World Trade Center** Man. STREET  
 BUILDING **110** BOROUGH  
 (Second Card) STORIES **204 x 204** AREA

Various  
 NAME OF OCCUPANT  
**Lt. John Elliott PAPD** ROOM/APT. NO.  
 LEFT IN CHARGE

COMP	NO.	SECT.	PTS.	NO.	SECT.	PTS.	NO.	SECT.	PTS.	NO.	SECT.	PTS.	NO.	SECT.	PTS.
5	055	0	10	7	008	0	05								

OPERATIONS

On arrival found light fire condition in rubbish piled against wall in main concourse which had caused scorching to said wall.

E 55 Stretched line from standpipe outlet and extinguished fire. washed down.

L 8 Examined for extension and unharmed.

*Stanley Hirschfield* 4 D.C.  
 Stanley Hirschfield 1608  
 TYPE FULL NAME TIME OF ARRIVAL  
 TYPE FULL NAME TIME OF ARRIVAL  
 DIV. PAGE  
 1 OF 1

ADMINISTRATIVE COMPANY



STRUCTURAL FIRE															
FOR FIRE RECORDS USE ONLY			DATE AND TIME ALARM RECEIVED					DURATION OF INCIDENT		LOCATION			REPORT		
TYPE	REPORT	MONTH	DAY	YEAR	CB NO.	HOUR	MINUTE	HOURS	MINUTES	HOW REPORTED	INITIAL ALARM	HIGHEST ALARM	BOROUGH	BOX NUMBER	ALARM
INCIDENT	REPORT	REPORT NUMBER	FILING	BALANCE	SALDO	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER
1	10	20	76	1	1618	00	40	1	1	0	1	0070	5	006	0113
00	00	01	00	00	30	2	6	00	01	1	1	15	1	0	0
7	001	0	05	7	008	0	02	7	024	0	02				
7	001	0	05	7	008	0	02								

ADDRESS **1 World Trade Centre Man.** **Port Authority of NY**

BUILDING **Tower "B" 110** **#300 X 300** **Mr. Sarnelli 73D**

(Second Card) **STORIES** **AREA** **LEFT IN CHARGE**

COMPANIES

TYPE NO. SECT. PIS

OPERATIONS

On arrival was notified by Mr Sarnelli of a rubbish fire on the 79 floor south west Quadrant tower B .

- E. 7 Responded to 79 floor stretched line from standpipe, extinguished fire
- E. 6 Stretched line and stood fast in fire control center area.
- E. 24 Stretched line and stood fast in stairway in lobby area.
- L. 1 Performed necessary search, ventilation, and over haul on fire floor.
- L. 8 Stood fast with tools and masks in stairway at lobby.

Injured P.O. Keely (port Authority Police) # 1501 removed to Beekman Hospital by public ambulance. Apparent smoke inhalation.

*Theodore A. Campbell* **1620**

TYPE FULL NAME TIME OF ARRIVAL

DIV. PAGE OF

TIME OF ARRIVAL

ADMINISTRATIVE COMPANY



FOR FIRE RECORDS USE ONLY				DATE AND TIME ALARM RECEIVED				DURATION OF INCIDENT				LOCATION				REPORT					
TYPE REPORT				MONTH	DAY	YEAR	CO. NO.	HOUR	MINUTE	HOURS	MINUTES	HOW REPORTED	INITIAL ALARM	HIGHEST ALARM	BOROUGH	SOFT NUMBER	DMV COMPANY	INCIDENT	REPORT NUMBER	FIRE BATTALION	BRIDGE NUMBER
1	06	24	77	1	2205	01	55	4	0	7	1	0070	5	006	0113	0158	01	531			

AIDED AND CASUALTIES				RESP.	EXTINGUISHMENT	INVESTIGATION	STRUCTURE	AREA FIRE ORIGIN												
CIVILIANS																				
EVACUATED	FIRST AID	INJURED	KILLED	UNIFORMED INJURED	ENG. SO. MARINE	ADDRESS	NO. SPRINKLERS	CAUSE	FIRE MATERIAL	CONSTRUCT.	USE	STATUS	STATUS	STATUS	STATUS	STATUS	STATUS	STATUS	STATUS	STATUS
00	03	07	00	00	03	4	0	00	01	1	62	1	15	1	1	0	46	31	50	00

ADDRESS 1 World Trade Ctr Man Port of N.Y. Authority hallw  
 NUMBER STREET BOROUGH NAME OF OCCUPANT ROOM/APT. NO.  
 BUILDING 110 250 x250 Richard Hintzen(Fire Safety D  
 (Second Card) STORIES AREA LEFT IN CHARGE

COMPANIES	TYPE	NO.	SECT.	FIS.	NO.	SECT.	FIS.	NO.	SECT.	FIS.	NO.	SECT.	FIS.	NO.	SECT.	FIS.							
5	006	0	20	5	007	0	12	5	024	0	12	1	001	0	10	7	001	0	20	7	008	0	20
7	015	0	10																				

## OPERATIONS

Responded to 3-70-2(Manual Alarm)

While responding Batt.1 notified via dept. radio of special call additional Ladder Co(L.15) due to report of fire 46th fl. Upon arrival was informed of fire 46th fl public hallway near freight elevator. Ordered investigation and found fire therein, which had been extinguished prior to the arrival of this dept. Evacuation instituted by Port Authority personnel prior to arrival of Fire Dept. units. Report of smoke detector operational of the 103rd fl. Fire located between freight elevators 49 & 17.

E.6- Rolled up lengths to the 44th fl. Connected to standpipe therein and stretched to fire floor(46th) Washed down fire area for overhauling purposes.

E.7- Assisted in stretch, then ordered to search, examination of 53rd to 58th fls. Also Checked 45th fl. report of smoke condition.

E.24- Reported to secondary command post(55th fl). Then ordered to check smoke condition report 53rd fl. Then assisted in search, & examination of 53rd to 56th fls. Also checked out smoke detector 103rd fl.

*James J. McKenna* 1 *Matthew J. Farrell* 1  
 James J. McKenna 2208 Matthew J. Farrell  
 TYPE FULL NAME TIME OF ARRIVAL TYPE FULL NAME TIME OF ARRIVAL

ADMINISTRATIVE COMPANY

BF-24A (6/76)

**REPORT — Additional Data****Structural Fire, Transportation Fire, Non-Structural Fire or Emergency**

FOR FIRE RECORDS USE ONLY		DATE AND TIME ALARM RECEIVED				ALARM	
TYPE	REPORT	MONTH	DAY	YEAR	CO. NO.	HOUR	MINUTE
1	06	24	77	2	2205	1	0070

TYPE	NO.	SECT.	PIS.
10	18	22	70
20	28	32	80
30	38	42	90
40	48	52	00
50	58	62	10
60	68	72	20
70	78	82	30
80	88	92	40
90	98	02	50

**OPERATIONS**

- L.1- Initially to the fire floor (46th) operated for overhauling search & examination, ventilation of same. Then search, examination & ventilation of the 107th to 46th fl. Stairway "B".
- L.8- Initially to secondary command post. (West St). Then ordered to check 78th to 60th fls search & examination. Also assisted in overhauling fire floor (46th)
- L.15- Special called to report to West St. Then through lobby to secondary command post. Enroute found (2) civilian cleaning personnel (female) had been removed to lobby suffering smoke inhalation. Performed first Aid on injured civilians. Then relieved by Res. 1 with resuscitator. Then ~~was~~ ordered to search 47th to 52nd fls as (2) injured civilians reported to have worked on the 48th & 50th fls.
- Res.1- Relieved L.15 and administered first aid (Inhalation) to injured civilians. Then ordered Office & remainder of members went to investigate report of smoke & people on the 55th fl. Then ~~came~~ down to 46th fl. Search, examination of floors enroute.
- Batt.1- Initially in command, then ordered to ~~establish command~~ set up additional command in lobby, as first aid station. Two public ambulances standing by with (4) resuscitators. Directed search operations of E.7, L.15, Res. 1. Ordered smoke purge 45th to 107 when fire was out.
- Batt.2- Ordered to supervise units on the fire floor & report conditions therein. Supervised in part operation of E.6, L.1
- Batt.32 - Ordered to supervise operations of units above fire floor.
- Div.1- In overhauled command of operations at command post B.1 level.

by James J. McKenna B.N. \_\_\_\_\_ D.C. \_\_\_\_\_ PAGE 1  
James J. McKenna 2208 Matthew J. Farrell 2 OF 3  
 TYPE FULL NAME TIME OF ARRIVAL TYPE FULL NAME TIME OF ARRIVAL

BF-24A (6/76)

## REPORT — Additional Data

### Structural Fire, Transportation Fire, Non-Structural Fire or Emergency

FOR FIRE RECORDS USE ONLY		DATE AND TIME ALARM RECEIVED				ALARM	
TYPE REPORT	MONTH	DAY	YEAR	CO NO.	HOUR	MINUTE	BOROUGH
1	06	24	77	2	2205	1	0070

TYPE	NO.	SECT.	PTS.
1	16	22	71
2	21	22	71
3	21	22	71
4	21	22	71
5	21	22	71
6	21	22	71
7	21	22	71
8	21	22	71
9	21	22	71
10	21	22	71

#### OPERATIONS

Act Asst Chief Munk on the scene to supervised overall operations.

Remarks: L. I checked all elevator cars before leaving scene.  
 Ordered 10-41 Code 1 due to report from Port Authority police of labor trouble with Maintenance personnel (Temco)  
 Dept. Photographer ordered to scene to take pictures of fire area.

Alarm was turned in by Mr. Nick Cappola, Temco Maintenance  
 (2) Beekman Ambulances on the scene under Mr. B. John

#### Injured Civilians:

#Name	Address	Injury	Treated
[REDACTED]	[REDACTED]	Smoke inhal.	Beekman & Released
[REDACTED]	[REDACTED]	Smoke inhal.	" " "
[REDACTED]	[REDACTED]	Smoke Inhal.	Received O2 not removed to Hos

Note : All of the above are employees of the Temco Co.

Sgt. Steve Fox Bd# 264	Burn to Fingers Rt Hand.
Ptl A. Hallicker	Burn to Rt Wrist
Ptl Meyers	Smoke inhal
Ptl. Carcaic	Smoke Inhal.

Note: Police members of Port Authority Police Dept. All injured treated at Beekman Hospital & released.

James J. McKenna D.C. \_\_\_\_\_ PAGE \_\_\_\_\_  
 TYPE FULL NAME 2208 Matthew J. Farrell TIME OF ARRIVAL \_\_\_\_\_

ADMINISTRATIVE COMPANY

BF-24 (6/72)-50M-121973(75)

REPORT - FIRE

FOR FIRE RECORDS USE ONLY				DATE AND TIME ALARM RECEIVED				DURATION OF INCIDENT				ALARM				INC.							
TYPE REPORT				MONTH	DAY	YEAR	CD NO.	HOUR	MINUTE	HOURS	MINUTES	HOW REPORTED	INITIAL ALARM	HIGHER ALARM	BOROUGH	BOX NUMBER	ADMIN. COMPANY	BLOCK NUMBER	REF. NO.				
				1	07	13	77	1	15	30	00	30	1	1	0	1	0070	5	006	0113	0122	01	10

AIDED AND CASUALTIES				RESP.				EXTINGUISHMENT				INVESTIGATION				STRUCTURE				AREA FIRE ORIGIN					
CIVILIANS																									
EVAQUATED	FIRST AID	INJURED	DECEASED	UNIFORMED	HYDRO	ENG. SO.	MAINE	CODE	NO. SPARK	HAS. CHAIN	STATIONARY	INVESTIG.	CAUSE	FIRE MARSHAL	CONDUCT	USE	STATUS	DOOR	WALL	FLOOR	CODE	ROOM OR AREA	CODE	OCCUPANCY	MARKED OF EXTENSION
00	00	00	00	00	00	30	2	5	00	01	0				1	15	1	0	0	09	57	50	00		

ADDRESS: # 1 World Trade Center Tower B  
 NUMBER: 110 STREET: 600 x 600 BOROUGH: AREA:  
 BUILDING: 110 STORIES: 600 x 600  
 (Second Card)

Port Authority  
 NAME OF OCCUPANT: Mr. Sarnelle FSD.  
 LEFT IN CHARGE: ROOM/APT.

COMPANY				OPERATIONS															
TYPE	NO.	SECT.	PTS.	TYPE	NO.	SECT.	PTS.	TYPE	NO.	SECT.	PTS.	TYPE	NO.	SECT.	PTS.	TYPE	NO.	SECT.	PTS.
5	007	0	05	7	001	0	05												

On arrival found fire to be in airconditioning room on the 9th fl  
 E. 7 Stretched Line, extinguished fire.  
 L. 1 Made necessary search and overhaul.

Signature: Theodore A. Campbell  
 NAME: Theodore A. Campbell  
 BN: 1535  
 DIV: 1  
 TIME OF ARRIVAL: 1535  
 TYPE FULL NAME: Theodore A. Campbell  
 TIME OF ARRIVAL: 1535

ADMINISTRATIVE COMPANY



REPORT - STRUCTURAL FIRE																			
FOR FIRE RECORDS USE ONLY		DATE AND TIME ALARM RECEIVED						DURATION OF INCIDENT		LOCATION				REPORT					
TYPE REPORT	MONTH	DAY	YEAR	CD NO.	HOUR	MINUTE	HOURS	MINUTES	HOW REPORTED	INITIAL ALARM	HIGHEST ALARM	BOROUGH	BOX NUMBER	ALARM	INCIDENT	REPORT NUMBER	PLUMB SATION	BIGGS NUMBER	
1	08	04	77	1	1105	00	20	4	1	1	1	0070	6	006	00113	0070	04	989	
AIDED AND CASUALTIES				EXTINGUISHMENT				INVESTIGATION				STRUCTURE				AREA FIRE ORIGIN			
CIVILIANS				RESP.				CAUSE				FIRE				FLOOR			
EVA. CURED	FIRST AID	INJURED	FILLED	UNIT ORKED	INJURED	THO. TO	ALARM	LADDERS	CODE	PP. OPEN	PP. OPEN	PP. OPEN	PP. OPEN	PP. OPEN	PP. OPEN	PP. OPEN	PP. OPEN	PP. OPEN	
00	00	00	00	00	00	03	25	00	01	1	62	1	15	1	1	0	5	50	
<p>ADDRESS: <b>1 World Trade Center</b> <b>Man.</b></p> <p>BUILDING: <b>110</b> <b>200 E 200</b></p> <p>(Second Card) <b>STORIES</b> <b>AREA</b></p> <p>NAME OF OCCUPANT: <b>Various</b> <b>ROOM/ART. NO.</b></p> <p>LEFT IN CHARGE: <b>Sgt. Brown, 109, P.A.P.D.</b></p>																			
<p>COMPARTMENT: <b>5 006 0 05</b> <b>7 001 0 05</b></p> <p>TYPE NO. SECT. PTS. <b>1021</b> <b>1022</b> <b>1023</b> <b>1024</b> <b>1025</b> <b>1026</b> <b>1027</b> <b>1028</b> <b>1029</b> <b>1030</b> <b>1031</b> <b>1032</b> <b>1033</b> <b>1034</b> <b>1035</b> <b>1036</b> <b>1037</b> <b>1038</b> <b>1039</b> <b>1040</b></p>																			
OPERATIONS																			
<p>On arrival found fire in accumulated rubbish in elevator lobby of 35th floor which had caused scorching of the walls and ceiling. Port Authority personnel had extinguished fire with hand extinguishers and standpipe hose. Fire termed suspicious by P.A.P.D.</p> <p>E 6 Responded with rolled-up lengths, hooked-up to standpipe and stood fast.</p> <p>L 1 Searched, examined for extension and overhauled.</p>																			
<p>ABC <i>James Hallinan</i> <b>4</b> D.C.</p> <p><b>James Hallinan</b> <b>1110</b></p> <p>TYPE FULL NAME TIME OF ARRIVAL TYPE FULL NAME TIME OF ARRIVAL</p> <p>ADMINISTRATIVE COMPANY</p>																			



FOR FIRE RECORDS USE ONLY		DATE AND TIME ALARM RECEIVED				DURATION OF INCIDENT		HOW REPORTED		ALARM		LOCATION		REPORT	
TYPE REPORT		MONTH	DAY	YEAR	CD. NO.	HOUR	MINUTE	HOURS	MINUTES	INITIAL ALARM	HIGHEST ALARM	BOROUGH	BOX NUMBER	ADMIN. COMPANY	REPORT NUMBER
1	11	03	77	1	1845	00	30	4	1	0	1	8085	5	006	0113
AIDED AND CASUALTIES		CIVILIANS		RESP.	EXTINGUISHMENT	INVESTIGATION	STRUCTURE	AREA FIRE ORIGIN							
EVAQUATED	FIRST AID	INJURED	KILLED	UNIFORMED INJURED	ENG. SQ. #	LADDERS	NO. SPRINKLERS OPEN	STANDPIPE LINES USED	FUREST CONTIN.	CAUSE	FIRE MARSHAL	CONSTRUCT	USE	STATUS	REMARKS TO BEG. TO RICH. CONTINUED
00	00	00	00	00	03	2	5	00	01	1	62	1	15	1	0
ADDRESS # 1 World Trade Center Tower 1 Man.		CLOSET		H.A.		NAME OF OCCUPANT		ROOM/APT. NO.							
BUILDING 110		300 X 300		Sgt. Fox P.A.		LEFT IN CHARGE									
(Second Card)		STORIES		AREA											
COMPANIES		5 006 0 10 7 001 0 05													
TYPE NO. SECT. PTS.		16/22		28/29		35/36		42/43		49/50		56			
OPERATIONS															

On arrival found cause of alarm to be fire in janatorial closet in volving rags and rubbish. Batt 4 requested a 10-41 Codel Fire caused searing of paint on walls and ceiling.

E-6 Stretched rolled up lengths and hooked up to standpipe outlet and extinguished fire.

L-1 Made examination of walls and ceiling and ventilated as necessary.

S.C. *Stanley Hirschfield* 4th D.C. *1850* DIV. *1* OF *1*

Stanley Hirschfield 1850 TYPE FULL NAME TIME OF ARRIVAL

ADMINISTRATIVE COMPANY

FOR FIRE RECORDS USE ONLY		DATE AND TIME ALARM RECEIVED				DURATION OF INCIDENT		LOCATION				REPORT						
TYPE REPORT	MONTH	DAY	YEAR	CD NO.	HOUR	MINUTE	HOURS	MINUTES	HOW REPORTED	INITIAL ALARM	HIGHEST ALARM	BOROUGH	BOX NUMBER	ADMIN. COMPANY	BLOCK NUMBER	REPORT NUMBER	FLYING BATTALION	BADGE NUMBER
1	02	13	78	1	2018	00	45	4	1	0	1	8089	5	006	0113	0071	01	531

AIDED AND CASUALTIES				RESP.		EXTINGUISHMENT		INVESTIGATION		STRUCTURE		AREA FIRE ORIGIN											
CIVILIANS																							
EVAQUATED	FIRST AID	INJURED	KILLED	UNIFORMED	INJURED	ENG. SO.	MACHINE	LADDERS	CODE	NO SPRINKLERS OPEN	STANDPIPE	FIRES USED	CAUSE	FIRE MARSHAL	CONSTRUCT	USE	STATUS	DAMAGE TO LOG	DAMAGE TO CONTENTS	FLOOR CODE	ROOM OR AREA CODE	OCCUPANCY	NUMBER OF EXTENSION
00	00	00	00	00	00	03	2	5	00	01	1	62		1	15	1	1	0	94	15	50	00	

ADDRESS 2 World Trade Ctr Man  
NUMBER STREET BOROUGH

Port of N.Y. Authority 107  
NAME OF OCCUPANT ROOM/APT. NO.

BUILDING 110 200 x200  
(Second Card) STORIES AREA

Sgt. Wescott PONYA Police  
LEFT IN CHARGE

10	16/22	28/29	35/36	42/43	49/50	55
5	006	0110	7	001	0	10

TYPE NO. SECT. PTS. 164 70/71 77/10 16/22 28/29 35

## OPERATIONS

Responded to manual alarm box 8089-

Upon arrival was informed of fire 107th fl. Ordered investigation and found fire in rubbish & maint. materials therein. Batt. 1 ordered additional Battalion Chief to respond on report of definite fire. Batt.4 responded.

R.6- Rolled up lengths to the fire floor extinguished remaining fire

L.1- Search, examination of fire floor & floor above. Opened walls for examination. Overhauled burned materials.

Bn.4- Ordered to supervise operations on the fire floor.

Div. 1- Responded to scene, and assumed command.

Note: Batt.1 transmitted 10-41 Code 2 & requested F.M. to respond.

B.C. James J. McKenna 2020 Matthew J. Farrell DIV. 1 PAGE 1 OF 1  
TYPE FULL NAME TIME OF ARRIVAL TYPE FULL NAME TIME OF ARRIVAL

ADMINISTRATIVE COMPANY



DF 4-4 (11/00)

TYPE REPORT		INCIDENT LOCATION		DATE AND TIME ALARM RECEIVED		INCIDENT DURATION		BOX LOCATION		REPORT		COS. RESP.								
COMMUNITY BOARD	ADJ. COMPANY	BLK. NUMBER	MONTH	DAY	YEAR	HOUR	MINUTE	MINUTES	HOURS	INITIAL ALARM	HIGHEST ALARM	BOX NUMBER	REPORT NUMBER							
1	01	5	006	0113	04	19	80	1406	02	30	1	1	2	11	8086	0156	01	531	07	3

EXTINGUISH		IGNITION		STRUCTURE		FIRE ORIGIN		FIRE EXTENSION		SPECIAL USE											
CODE	UNIFORMED	UNIFORMED	UNIFORMED	UNIFORMED	UNIFORMED	UNIFORMED	UNIFORMED	UNIFORMED	UNIFORMED	UNIFORMED	UNIFORMED										
500	00	00	00	5	00	01	3	98	30	40	50	31	15	1	1106	54	59	00	01	0	2

EQUIP. INVOLVED		MATERIAL TYPE		MATERIAL FORM		STATUS		FLOOR DAMAGE		FLOOR CODE		OCCUPANCY		MANNER OF OCCUPANCY		OCCUPANCY		NO. BLDG.		SHAKE DETECTORS		SPECIAL USE	
VR	MAKE	MODEL	VR	MAKE	MODEL	VR	MAKE	MODEL	VR	MAKE	MODEL	VR	MAKE	MODEL	VR	MAKE	MODEL	VR	MAKE	MODEL	VR	MAKE	MODEL
1	WORLD TRADE	126	130	1	CONTR	1	CONTR	1	CONTR	1	CONTR	1	CONTR	1	CONTR	1	CONTR	1	CONTR	1	CONTR	1	CONTR

NAME OF OCCUPANT: **Mr. John Barrett, F.B.D.**

EQUIPMENT INVOLVED IN IGNITION: **Mr. John Barrett, F.B.D.**

STREET NAME: **212 x 212**

ROOM, APT. NO.: **110**

POWER: **187**

UNIT: **5** PTS: **006** 20 **5** 007 08 **5** 010 02 **7** 001 20 **7** 008 20

OPERATIONS

Upon arrival Batt. 1 received report of activated smoke detector in return air duct 106 floor Tower #1.

Batt. 1 subsequently received reports of heavy smoke on floor 106, light smoke on floor 109, heavy odor of smoke in stairways "A" and "B" leaving only stairway "C" as a clear exit

B.C. James J. McKenna BN. 1409 DIV. 1 OF 5

TYPE FULL NAME: James J. McKenna TIME OF ARRIVAL: 11:07

ADMINISTRATIVE COMPANY



REPORT - ADDITIONAL DATA

STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

DATE AND TIME ALARM RECEIVED				BOX LOCATION		IGNITION				STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION		
MONTH	DAY	YEAR	HOUR	MINUTE	SECOND	BUILDING NO.	FLOOR	STAGE	TYPE	MATERIAL TYPE	MATERIAL FORM	STATUS	ROOMS	FLOOR CODE	WALL AREA CODE	
04	19	80	14	06	11	8086	01	3	98	30	40	50	1	15	1	1
6	04	19	80	14	06	11	8086	01	3	98	30	40	50	1	15	1

NUMBER		STREET NAME		IF MOBILE PROPERTY	
QUARTER	HYPERNO	STREET	TRADE	ITEM	STATE
1	1	WORLD TRADE	CRIME		
1	1	WORLD TRADE	CRIME		

UNIT	PTS.	195	201	207	213	219	225	231	237
5	006	20	5	007	25	5	010	12	7
5	006	20	5	007	25	5	010	12	7

OPERATIONS

from the 107th. floor restaurant. There is an open access stair from 106, opening into 107th. floor restaurant dining area.

At this point fire had not been located. On basis of above, Batt. 1 ordered approx. 300 persons evacuated from the " Windows on the world restaurant " on the 107th. floor via stairway " C " which was clear of smoke. Later stairway " B " was clear of smoke and was made available for evacuation.

On Arrival of D.C. Rossi, Div. 1 Batt. 1 advised Him of above and recommended a 2nd. alarm be transmitted, as fire had not been located. Restaurant was being evacuated and all units were now assigned to work. D.C. Rossi transmitted a 2nd. alarm and requested 2 additional Batt. ch. Operations of Cos. are as follows:

Eng. 6 Masks, rolledups, responded to fire floor via freight elevator to 104 fl. via stairway to 106 fl. Met Lad. 1 who had located fire on 106 fl. Hooked 4 lengths of 2 1/2 hose to standpipe, operated on fire.

B.C. James J. McKenna BN. 1409 D.C. 1409 DIV. 1 TAG. 11 OF 11

James J. McKenna 1409

TYPE FULL NAME TIME OF ARRIVAL TYPE FULL NAME TIME OF ARRIVAL

(1) White Copy: Fire Records (2) Canary Copy: Battalion (3) Pink Copy: Administrative Company (4) Goldenrod Copy: Reference



REPORT - ADDITIONAL DATA															
STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY															
TYPE REPORT		DATE AND TIME ALARM RECEIVED				BOX LOCATION		IGNITION		STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION	
MONTH	DAY	YEAR	HOUR	MINUTE	SECOND	BOX NO.	BUILDING NO.	FLOOR STAGE	EQUIP INVOLVED	HEAT TYPE	MATERIAL TYPE	MATERIAL FORM	CONSTRUCTION	USE	
6	04	19	20	14	06	11	5086	01	3	38	30	40	50	1	15
NUMBER (BIO. NUMBER)		STREET NAME				IF MOBILE PROPERTY									
1		WORLD TRADE				CITY									
YEAR		MAKE		MODEL		79 SERIAL NO.		LICENSE		STATE					
189		51		54											
BO		141		147		150		158		165		171		177	
CO		181		187		193		199		205		211		217	
S		223		229		235		241		247		253		259	
UNIT		PTS		201		207		213		219		225		231	
189		195		201		207		213		219		225		231	
OPERATIONS															
Operations of Cos. continued:															
Lad. 1 to 106 floor to investigate activated smoke alarm, searched and located fire, checked floor above for extension, and overhauled.															
Eng. 7 Responded to 109 fl. to investigate a sprinkler alarm, found no sprinkler flow, and light smoke condition.															
Lad. 8 Responded to 109 fl. with Eng. 7.															
Eng. 7, and Lad. 8 then reported to 108, 107, and 106 fls. made search and assisted in evacuation of Restaurant.															
Eng. 10, Responded to 106 fl. to assist and relieve Eng. 6 on the line.															
2nd. alarm units reported to comand post, stood fast then ordered to take up by DAC Glasse.															
Rescue 1 responded on 2nd. alarm, reported to 107 fl. assisted in evacuation of restaurant, then to 106 fl. to assist Lad. 1, then ordered to take up.															
<div style="display: flex; justify-content: space-between;"> <div>             B.C. <u>James J. McKenna</u> <span style="margin-left: 20px;">BN. 1409</span> </div> <div>             DIV. <span style="border: 1px solid black; padding: 2px;">3 of 4</span> </div> </div>															
<div style="display: flex; justify-content: space-between;"> <div>TYPE FULL NAME</div> <div>TIME OF ARRIVAL</div> <div>TYPE FULL NAME</div> <div>TIME OF ARRIVAL</div> </div>															
<div style="display: flex; justify-content: space-between;"> <div>(1) White Copy: Fire Records</div> <div>(2) Canary Copy: Battalion</div> <div>(3) Pink Copy: Administrative Company</div> <div>(4) Goldenrod Copy: Referral</div> </div>															



REPORT - ADDITIONAL DATA

STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT		DATE AND TIME ALARM RECEIVED				BOX LOCATION		IGNITION		STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION						
MONTH	DAY	YEAR	MONTH	DAY	YEAR	BOX NO.	STAGE	CAUSE	MATERIAL TYPE	MATERIAL FORM	STATUS	BLDG. CHARGE	CONT'S. CHARGE	REMARKS	OCCUPANCY					
6	04	19	06	11	08	01	3	28	30	40	50	1	13	1	1	06	54	59	00	01

NUMBER	HYPER	DATE	TIME	SHEET NAME	ITEM
1				WORLD TRADE	CHIEF

IF MOBILE PROPERTY

YR.	MAKE	MODEL	78 SERIAL NO.	LICENSE	STATE

UNIT PTS. 195 201 207 213 219 225 231 237 243 249 255 261 267 273 279 285 291 297 303 309 315 321 327 333 339 345 351 357 363 369 375 381 387 393 399 405 411 417 423 429 435 441 447 453 459 465 471 477 483 489 495 501 507 513 519 525 531 537 543 549 555 561 567 573 579 585 591 597 603 609 615 621 627 633 639 645 651 657 663 669 675 681 687 693 699 705 711 717 723 729 735 741 747 753 759 765 771 777 783 789 795 801 807 813 819 825 831 837 843 849 855 861 867 873 879 885 891 897 903 909 915 921 927 933 939 945 951 957 963 969 975 981 987 993 999

OPERATIONS

Operations of Cos. continued:

Chief Officers on scene:

DAC Glasse, City wide command Chief.

D.C. Rossi Dept. chief 1st. Div.

B.C. James J. McKenna Chief 1st. Batt.

B.C. Louis Pike Chief 2nd. Batt.

B.C. John T. Carroll Chief 4th. Batt.

B.C. Edward J. Miller Chief 6th. Batt.

Field Comm. unit, Lieut. Soranno on scene.

Fire Patrol #2 on scene.

W.F.C. fire safety director Mr. John Barrett on scene.

P.A. Patrolmen Cemonuk, and Oorbeek on Duty at Command Post.

Building Mechanical System failures noted:

#1 Sprinkler alarm received for unsprinklerd 109 Fl.

#2 Return air duct smoke detectors did not shut fans down.

#3 Heat fused link shut damper in purge system.

#4 107 floor standpipe phone unreliable due to feed back from radios.

B.C. James J. McKenna D.C. James J. McKenna BN. 1409 DIV. 1

James J. McKenna 1409

TYPE FULL NAME TIME OF ARRIVAL TYPE FULL NAME TIME OF ARRIVAL

(1) White Copy: Fire Records (2) Canary Copy: Battalion (3) Pink Copy: Administrative Company (4) Goldleaf Copy: Referral



# REPORT - ADDITIONAL DATA

## STRUCTURAL FIRE - TRANSPORTATION FIRE - NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT		DATE AND TIME ALARM RECEIVED					BOX LOCATION		IGNITION			STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION								
		MONTH	DAY	YEAR	HOUR	MINUTE	BOX NO.	SECTION NO.	TERMINAL	STAGE	GROUP	MATERIAL	LOCATION	STATUS	BUILDING		CONTENTS	FLOOR	WALL	CEILING	WIND	WIND DIRECTION	WIND VELOCITY	
6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
NUMBER		STREET NAME					WORLD TRADE		INTER		ITEM		IF MOBILE PROPERTY											
MAKE		MODEL					SERIAL NO.		LICENSE		STATE													
UNIT		PLS.					190		201		207		213		219		225		231		238			

### OPERATIONS

High Rise Report prepared and forwarded to Div. of Fire Prevention.

Follow up on Mechanical and Electrical malfunctions being made with Port Authority.

See copy of High Rise report for details.

JAMES J. McKenna JAMES J. McKenna	D.C.	1409	BN.	DIV.	PAGE
TYPE FULL NAME	TIME OF ARRIVAL	TYPE FULL NAME	TIME OF ARRIVAL		

(1) White Copy: Fire Records (2) Canary Copy: Battalion (3) Pink Copy: Administrative Company (4) Goldstrod Copy: Reference

[illegible]

## OPERATIONS

Responded to alarm box 8093. Upon arrival found cause to be for a rubbish fire at the above location. Eng. 10- Stretched standpipe line, extinguished fire, washed down. Lad. 1- Searched, found fire, vented, checked for extension, overhauled.

B.C. James G. McKenna 1 D.C. 1 BN. 0126 PAGE 1 OF 1  
 TYPE FULL NAME James J. McKenna TIME OF ARRIVAL                      DIV.                      TIME OF ARRIVAL



NIST NCSTAR 1-4A, WTC Investigation



# REPORT - STRUCTURAL FIRE

BF-24 (1/80)

TYPE REPORT		INCIDENT LOCATION		DATE AND TIME		ALARM RECEIVED		DURATION		INCIDENT		BOX LOCATION		REPORT		COS. RESP.	
COMMUNITY BOARD		BLOCK NUMBER		DAY		YEAR		HOURS		MINUTES		INITIAL ALARM		BOX NUMBER		REPORT NUMBER	
1 01		5 006		04 47 81		0918		01 30 7		1 2 1		8084		0145		0196 093	
AIDED AND CASUALTIES		EXTINGUISHMENT		IGNITION		STRUCTURE		AREA FIRE ORIGIN		FIRE EXTENSION		SPECIAL USE					
CIVILIANS		SMOKED		SMOKED		SMOKED		SMOKED		SMOKED		SMOKED		SMOKED		SMOKED	
KILLED		UNFURNISHED		UNFURNISHED		UNFURNISHED		UNFURNISHED		UNFURNISHED		UNFURNISHED		UNFURNISHED		UNFURNISHED	
INJURED		INJURED		INJURED		INJURED		INJURED		INJURED		INJURED		INJURED		INJURED	
EVACUATED		EVACUATED		EVACUATED		EVACUATED		EVACUATED		EVACUATED		EVACUATED		EVACUATED		EVACUATED	
99 00 00 00		5 00 01		3 31 20		00 00 50		1 15 1		1 07 36		09 00 01		09 00 01		09 00 01	
STREET NAME		STREET NAME		STREET NAME		STREET NAME		STREET NAME		STREET NAME		STREET NAME		STREET NAME		STREET NAME	
World Trade Center		World Trade Center		World Trade Center		World Trade Center		World Trade Center		World Trade Center		World Trade Center		World Trade Center		World Trade Center	
PORT AUTHORITY N.Y., N.J.		PORT AUTHORITY N.Y., N.J.		PORT AUTHORITY N.Y., N.J.		PORT AUTHORITY N.Y., N.J.		PORT AUTHORITY N.Y., N.J.		PORT AUTHORITY N.Y., N.J.		PORT AUTHORITY N.Y., N.J.		PORT AUTHORITY N.Y., N.J.		PORT AUTHORITY N.Y., N.J.	
NAME OF OCCUPANT		NAME OF OCCUPANT		NAME OF OCCUPANT		NAME OF OCCUPANT		NAME OF OCCUPANT		NAME OF OCCUPANT		NAME OF OCCUPANT		NAME OF OCCUPANT		NAME OF OCCUPANT	
Bill Sarnelli P.S.D.		Bill Sarnelli P.S.D.		Bill Sarnelli P.S.D.		Bill Sarnelli P.S.D.		Bill Sarnelli P.S.D.		Bill Sarnelli P.S.D.		Bill Sarnelli P.S.D.		Bill Sarnelli P.S.D.		Bill Sarnelli P.S.D.	
EQUIPMENT INVOLVED IN IGNITION		EQUIPMENT INVOLVED IN IGNITION		EQUIPMENT INVOLVED IN IGNITION		EQUIPMENT INVOLVED IN IGNITION		EQUIPMENT INVOLVED IN IGNITION		EQUIPMENT INVOLVED IN IGNITION		EQUIPMENT INVOLVED IN IGNITION		EQUIPMENT INVOLVED IN IGNITION		EQUIPMENT INVOLVED IN IGNITION	
HVAC Unit		HVAC Unit		HVAC Unit		HVAC Unit		HVAC Unit		HVAC Unit		HVAC Unit		HVAC Unit		HVAC Unit	
UNIT		UNIT		UNIT		UNIT		UNIT		UNIT		UNIT		UNIT		UNIT	
5 010 10		5 006 10		5 007 10		7 001 10		7 015 10		7 015 10		7 015 10		7 015 10		7 015 10	

OPERATIONS	
Upon arrival at box 8084, was informed by PA police of fire in MER room on the 7th floor with smoke condition on 7 thru 11 floors, transmitted 2nd alarm.	
Eng. 10 Masks, rolled up, responded to 7th floor, hooked up to standpipe, extinguished fire in air condition unit in MER room.	
Eng. 6 Masks, rolled up, responded to 7th floor, stood fast.	
Eng. 7 Masks, rolled up, responded to 7th floor, stood fast.	
Lad. 1 Masks, responded to 7th floor, V.S.O. air condition unit, checked for extension in AC duct.	
Lad. 15 Masks, Vented and searched floors 8 thru 13, checked for extension in AC duct.	
Lad. 6 Masks, under direction of BO Moffet, En. 4 searched floors 13 thru 18.	

## ADMINISTRATIVE COMPANY

B.C.	BN.	D.C.	PAGE
			1
TYPE FULL NAME		TIME OF ARRIVAL	

## REPORT — Additional Data

## Structural Fire, Transportation Fire, Non-Structural Fire or Emergency

FOR FIRE RECORDS USE ONLY		DATE AND TIME ALARM RECEIVED				ALARM	
TYPE REPORT	MONTH	DAY	YEAR	CD. NO.	HOUR	MINUTE	BOX NUMBER
1	04	17	81	2	09	18	8084

COMPANY	TYPE	NO.	SECT.	PIS.
1	1	1	1	1
2	1	1	1	1
3	1	1	1	1
4	1	1	1	1
5	1	1	1	1
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11	1	1	1	1
12	1	1	1	1
13	1	1	1	1
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36	1	1	1	1
37	1	1	1	1
38	1	1	1	1
39	1	1	1	1
40	1	1	1	1
41	1	1	1	1
42	1	1	1	1
43	1	1	1	1
44	1	1	1	1
45	1	1	1	1
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94	1	1	1	1
95	1	1	1	1
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97	1	1	1	1
98	1	1	1	1
99	1	1	1	1
100	1	1	1	1

OPERATIONS  
continued

Rescue 1 Masks, searched floors 18 thru 23.

## 2nd. alarm units:

Engs. 24, 15, 55, 9, 241, and Marine 1 were ordered to stand fast at there assigned locations.

Div. 1, D.C. DeCaprio responded and supervised operations

Chiefs Gormley, Bishop, and Farrell also on scene.

P.A. personell reported evacuation of aprox, 1,500 persons from floors 9 thru 23.

F.C. unit on scene

F.P. 2 on scene.

## TIMES

Box	0918
2-2	0928
U/C	0959

*Peter Costello*

Peter Costello

TYPE FULL NAME

0920

TIME OF ARRIVAL

Angelo DeCaprio

TYPE FULL NAME

PAGE  
DIV. 2 OF 2

TIME OF ARRIVAL

ADMINISTRATIVE COMPANY

[illegible]

## REPORT — STRUCTURAL FIRE

BF 24 (11/80)

INCIDENT LOCATION		DATE AND TIME		ALARM RECEIVED		INCIDENT DURATION		HOW REPORTED		BOX LOCATION		REPORT		COS. RESP.	
BLOCK NUMBER		YEAR		MONTH		DAY		HOURS		MINUTES		INITIAL ALARM		HIGHEST ALARM	
ADMIN. COMPANY		YEAR		MONTH		DAY		HOURS		MINUTES		BOX NUMBER		REPORT NUMBER	
TYPE REPORT		YEAR		MONTH		DAY		HOURS		MINUTES		BOX NUMBER		REPORT NUMBER	
EQUITY BOARD		YEAR		MONTH		DAY		HOURS		MINUTES		BOX NUMBER		REPORT NUMBER	
1		01		05		11		10		25		00		25	
2		00		00		00		00		00		00		00	
3		00		00		00		00		00		00		00	
4		00		00		00		00		00		00		00	
5		00		00		00		00		00		00		00	
6		00		00		00		00		00		00		00	
7		00		00		00		00		00		00		00	
8		00		00		00		00		00		00		00	
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89		00		00		00		00		00		00		00	
90		00		00		00		00		00		00		00	
91		00		00		00		00		00		00		00	
92		00		00		00		00		00		00		00	
93		00		00		00		00		00		00		00	
94		00		00		00		00		00		00		00	
95		00		00		00		00		00		00		00	
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97		00		00		00		00		00		00		00	
98		00		00		00		00		00		00		00	
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105		00		00		00		00		00		00		00	
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108		00		00		00		00		00		00		00	
109		00		00		00		00		00		00		00	
110		00		00		00		00		00		00		00	
111		00		00		00		00		00		00		00	
112		00		00		00		00		00		00		00	
113		00		00		00		00		00		00		00	
114		00		00		00		00		00		00		00	
115		00		00		00		00		00		00		00	
116		00		00		00		00		00		00		00	
117		00		00		00		00		00		00		00	
118		00		00		00		00		00		00		00	
119		00		00		00		00		00		00		00	
120		00		00		00		00		00		00		00	
121		00		00		00		00		00		00		00	
122		00		00		00		00		00		00		00	
123		00		00		00		00		00		00		00	
124		00		00		00		00							

# REPORT - STRUCTURAL FIRE

BF-24 (1/80)

TYPE REPORT		INCIDENT LOCATION		DATE AND TIME ALARM RECEIVED		INCIDENT DURATION		BOX LOCATION		REPORT		COS. RESP.	
COMMUNITY		BLOCK NUMBER		YEAR		HOURS		BOX NUMBER		FILING		ADDRESS	
1		0113		12-13-82		2038 00:30		1 0 1 8093		0102 01 150 03 2		45	
EVALUATED		KILLED		EQUIP INVOLVED		MATERIAL TYPE		STATUS		FLOOR CODE		OCCUPANCY	
00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00	
FIRST AID		INJURED		STANDPIPE		EQUIP STAGE		USE		CONTS DAGE		MANNER OF	
00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00	
UNINJURED		NO OPEN		HEAT FORM		MATERIAL TYPE		CONSTRUCT		FLOOR CODE		OCCUPANCY	
00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00	
CIVILIANS		SPRINKLER		EQUIP INVOLVED		MATERIAL TYPE		STATUS		FLOOR CODE		OCCUPANCY	
00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00	
AIDED AND CASUALTIES		NO OPEN		HEAT FORM		MATERIAL TYPE		CONSTRUCT		FLOOR CODE		OCCUPANCY	
00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00	
STRUCTURE		STREET NAME		EQUIP INVOLVED		MATERIAL TYPE		STATUS		FLOOR CODE		OCCUPANCY	
00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00	
AREA		STREET NAME		EQUIP INVOLVED		MATERIAL TYPE		STATUS		FLOOR CODE		OCCUPANCY	
00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00	
FIRE EXTENSION		STREET NAME		EQUIP INVOLVED		MATERIAL TYPE		STATUS		FLOOR CODE		OCCUPANCY	
00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00	
SPECIAL USE		STREET NAME		EQUIP INVOLVED		MATERIAL TYPE		STATUS		FLOOR CODE		OCCUPANCY	
00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00		00 00 00 00 00 00 00 00 00 00 00 00 00 00	

ADMINISTRATIVE COMPANY

## OPERATIONS

Upon arrival box 8093 found following conditions at B-1 level, fire in dumpster and also on loading platform, Units operated viz:  
E-10 stretched line from standpipe and extinguished fire  
L-1 did necessary overhauling and venting

BC Joseph L. Barracato 1 D.C. 2038 PAGE 1 OF 1  
 DIV. 1  
 TYPE FULL NAME Joseph L. Barracato TIME OF ARRIVAL 2038  
 TYPE FULL NAME Joseph L. Barracato TIME OF ARRIVAL 2038



## REPORT — STRUCTURAL FIRE

BF-24 (1/80) 173M 608551 (B3)

106-110

TYPE REPORT		INCIDENT LOCATION		DATE AND TIME		ALARM RECEIVED		INCIDENT DURATION		HOW REPORTED		BOX LOCATION		REPORT		COS. RESP.	
COMMUNITY BOARD	INCIDENT NUMBER	MONTH	DAY	YEAR	HOUR	MINUTE	MINUTES	INITIAL ALARM	BOX NUMBER	BOX LOCATION	REPORT NUMBER	BATTALION	ENGINE NUMBER	ENGINE NUMBER	ENGINE NUMBER	ENGINE NUMBER	ENGINE NUMBER
1	0105010113	01	04	-84	1625	00:20	2	1	0	1	8084	0028	01	572	03	2	

AIDED AND CASUALTIES		EXTINGUISHMENT		IGNITION		STRUCTURE		AREA FIRE ORIGIN		FIRE EXTENSION		SPECIAL USE	
EVACUATED	FIRST AID	INJURED	KILLED	UNINFORMED	INJURED	LOOSE	SPRINKLER	STAMPED	STAMPED	STAMPED	STAMPED	STAMPED	STAMPED
00	00	00	00	01	3	00	40	60	75	00	1	15	1

STREET NAME		TYPE		BUILDING		AREA	
NUMBER	STREET NAME	TYPE	BUILDING	AREA	200x200	110	200x200
1	World Trade Center	1	130	110	200x200	110	200x200

NAME OF OCCUPANT		ROOM, APT. NO.		LEFT IN CHARGE	
NAME	ROOM, APT. NO.	NAME	ROOM, APT. NO.	NAME	ROOM, APT. NO.
Kenneth P. Markgraf	110	FSD Norcia	110		

EQUIPMENT INVOLVED IN IGNITION		YR.		MAKE		MODEL		SIN		POWER	
UNIT	PTS.	YR.	MAKE	MODEL	SIN	POWER	UNIT	PTS.	YR.	MAKE	MODEL
5	010	05	7	010	05						

## OPERATIONS

Upon arrival at box was informed of fire in service elevator room on the 15th floor.  
 Engine 10 extinguished fire.  
 Ladder 10 checked for extension and overhauled.  
 one sprinkler head was released.

B.C. Kenneth P. Markgraf BN. 1628 DIV. 1 PAGE 1 OF 1  
 Kenneth P. Markgraf TYPE FULL NAME TIME OF ARRIVAL

[illegible]

Upon arrival found fire in the freight elevator lobby, 23rd floor. Units operated as follows:

- Engine 10 stretched line from the standpipe and operated line.
- Ladder 10 V.B.S. performed necessary overhaul, used can on the fire.

CONF. 10-41-CODE, 1 Transmitted.

B.C. 100-101-102-103-104-105-106-107-108-109-110-111-112-113-114-115-116-117-118-119-120-121-122-123-124-125-126-127-128-129-130-131-132-133-134-135-136-137-138-139-140-141-142-143-144-145-146-147-148-149-150-151-152-153-154-155-156-157-158-159-160-161-162-163-164-165-166-167-168-169-170-171-172-173-174-175-176-177-178-179-180-181-182-183-184-185-186-187-188-189-190-191-192-193-194-195-196-197-198-199-200-201-202-203-204-205-206-207-208-209-210-211-212-213-214-215-216-217-218-219-220-221-222-223-224-225-226-227-228-229-230-231-232-233-234-235-236-237-238-239-240-241-242-243-244-245-246-247-248-249-250-251-252-253-254-255-256-257-258-259-260-261-262-263-264-265-266-267-268-269-270-271-272-273-274-275-276-277-278-279-280-281-282-283-284-285-286-287-288-289-290-291-292-293-294-295-296-297-298-299-300-301-302-303-304-305-306-307-308-309-310-311-312-313-314-315-316-317-318-319-320-321-322-323-324-325-326-327-328-329-330-331-332-333-334-335-336-337-338-339-340-341-342-343-344-345-346-347-348-349-350-351-352-353-354-355-356-357-358-359-360-361-362-363-364-365-366-367-368-369-370-371-372-373-374-375-376-377-378-379-380-381-382-383-384-385-386-387-388-389-390-391-392-393-394-395-396-397-398-399-400-401-402-403-404-405-406-407-408-409-410-411-412-413-414-415-416-417-418-419-420-421-422-423-424-425-426-427-428-429-430-431-432-433-434-435-436-437-438-439-440-441-442-443-444-445-446-447-448-449-450-451-452-453-454-455-456-457-458-459-460-461-462-463-464-465-466-467-468-469-470-471-472-473-474-475-476-477-478-479-480-481-482-483-484-485-486-487-488-489-490-491-492-493-494-495-496-497-498-499-500-501-502-503-504-505-506-507-508-509-510-511-512-513-514-515-516-517-518-519-520-521-522-523-524-525-526-527-528-529-530-531-532-533-534-535-536-537-538-539-540-541-542-543-544-545-546-547-548-549-550-551-552-553-554-555-556-557-558-559-560-561-562-563-564-565-566-567-568-569-570-571-572-573-574-575-576-577-578-579-580-581-582-583-584-585-586-587-588-589-590-591-592-593-594-595-596-597-598-599-600-601-602-603-604-605-606-607-608-609-610-611-612-613-614-615-616-617-618-619-620-621-622-623-624-625-626-627-628-629-630-631-632-633-634-635-636-637-638-639-640-641-642-643-644-645-646-647-648-649-650-651-652-653-654-655-656-657-658-659-660-661-662-663-664-665-666-667-668-669-670-671-672-673-674-675-676-677-678-679-680-681-682-683-684-685-686-687-688-689-690-691-692-693-694-695-696-697-698-699-700-701-702-703-704-705-706-707-708-709-710-711-712-713-714-715-716-717-718-719-720-721-722-723-724-725-726-727-728-729-730-731-732-733-734-735-736-737-738-739-740-741-742-743-744-745-746-747-748-749-750-751-752-753-754-755-756-757-758-759-760-761-762-763-764-765-766-767-768-769-770-771-772-773-774-775-776-777-778-779-780-781-782-783-784-785-786-787-788-789-790-791-792-793-794-795-796-797-798-799-800-801-802-803-804-805-806-807-808-809-810-811-812-813-814-815-816-817-818-819-820-821-822-823-824-825-826-827-828-829-830-831-832-833-834-835-836-837-838-839-840-841-842-843-844-845-846-847-848-849-850-851-852-853-854-855-856-857-858-859-860-861-862-863-864-865-866-867-868-869-870-871-872-873-874-875-876-877-878-879-880-881-882-883-884-885-886-887-888-889-890-891-892-893-894-895-896-897-898-899-900-901-902-903-904-905-906-907-908-909-910-911-912-913-914-915-916-917-918-919-920-921-922-923-924-925-926-927-928-929-930-931-932-933-934-935-936-937-938-939-940-941-942-943-944-945-946-947-948-949-950-951-952-953-954-955-956-957-958-959-960-961-962-963-964-965-966-967-968-969-970-971-972-973-974-975-976-977-978-979-980-981-982-983-984-985-986-987-988-989-990-991-992-993-994-995-996-997-998-999-1000-1001-1002-1003-1004-1005-1006-1007-1008-1009-1010-1011-1012-1013-1014-1015-1016-1017-1018-1019-1020-1021-1022-1023-1024-1025-1026-1027-1028-1029-1030-1031-1032-1033-1034-1035-1036-1037-1038-1039-1040-1041-1042-1043-1044-1045-1046-1047-1048-1049-1050-1051-1052-1053-1054-1055-1056-1057-1058-1059-1060-1061-1062-1063-1064-1065-1066-1067-1068-1069-1070-1071-1072-1073-1074-1075-1076-1077-1078-1079-1080-1081-1082-1083-1084-1085-1086-1087-1088-1089-1090-1091-1092-1093-1094-1095-1096-1097

## 9F-24 (1/80)-175M-608551 (83)

## OPERATIONS

OPERATIONS

Upon arrival, advised by FSD that there was a dumpster fire in the hall on the 38th floor, extinguished prior to FD arrival. Once informed that all fire had been extinguished permission was granted to building personnel to clear floor area of smoke by use of HVAC system. A 10-41-1 was transmitted for this box. Operations as follows: B4 set up lobby command post, monitored hard wire communications. E 10 donned masks, stretched line from stairwells and completed operations on fire floor. L 10 " " , made search of 38th floor, overhauled as needed. L 15 " " , made search of 39th, 40th, 41st floors, all found satisfactory. All other 10-76 units stood fast at staging area. 10-41-1 transmitted.

B 141

22.1.63

[illegible]

# REPORT - STRUCTURAL FIRE

BF 24 (1) 7/15/04-020851 (002)

TYPE REPORT		INCIDENT LOCATION		DATE AND TIME		ALARM RECEIVED		INCIDENT DURATION		BOX LOCATION		REPORT		CIS RESP		
ALARM	BOX	MONTH	DAY	YEAR	HOUR	MINUTE	SECONDS	MINUTES	SECONDS	BOX NUMBER	BOX LOCATION	REPORT NUMBER	REPORT DATE	REPORT TIME	CIS RESP	
1	0024	07	06	2001	17	00	00	05	01	01	0084	0071	01	075	03	2

AIDED AND CASUALTIES		EXTINGUISHMENT		IGNITION		STRUCTURE		AREA FIRE ORIGIN		FIRE EXTENSION		SPECIAL USE	
DECEASED	INJURED	SMOKED	EXTINGUISHED	TYPE	MATERIAL	CAUSE	STATUS	STATUS	STATUS	STATUS	STATUS	STATUS	STATUS
0	0	0	0	0	0	0	0	0	0	0	0	0	0

STREET NAME		BUILDING		AREA		LEFT IN CHARGE	
STREET NAME	STREET ADDRESS	BUILDING	AREA	LEFT IN CHARGE	LEFT IN CHARGE	LEFT IN CHARGE	LEFT IN CHARGE
200 X 200	200 X 200	200 X 200	200 X 200	200 X 200	200 X 200	200 X 200	200 X 200

EQUIPMENT INVOLVED IN IGNITION		ROOM, APT. NO.		YR.		MAKE		MODEL		SNU		POWER	
EQUIPMENT	ROOM, APT. NO.	YR.	MAKE	MODEL	SNU	POWER	EQUIPMENT	ROOM, APT. NO.	YR.	MAKE	MODEL	SNU	POWER
0	0	0	0	0	0	0	0	0	0	0	0	0	0

## OPERATIONS

Responded to ERS alarm, report of smoke in building. As units were responding informed by dispatcher of numerous reports of smoke from 30 to 55th floor. After searching found cause of smoke to be coming from NEH ft room on 55th floor. Fire was caused by welding operation resulted heat caused insulating to ignite inside of fan room. Units operated viz.

- Engine Co. 10 - Stretched line from standpipe on 55th floor and extinguished fire.
- Ladder Co. 10 - Searched, overhauled, checked for extension.
- Ladder Co. 1 - Searched, checked for extension.
- Engine Co. 6 - Searched, maned command post.

REPORTED BY: *Rudolph* QUATRENO *1st* DIV. *17:51* TIME OF ARRIVAL  
 TYPE FULL NAME: *Rudolph* TIME OF ARRIVAL: *17:51*

ADMINISTRATIVE COMPANY



NIST NCSTAR 1-4A, WTC Investigation



[illegible]

F-24A (12/86) REPORT - ADDITIONAL DATA

STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT		DATE AND TIME ALARM RECEIVED				BOX LOCATION		INCIDENT NUMBER		BUILDING NUMBER		EQUIPMENT		MATERIAL TYPE		CONSTRUCTION		STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION	
MONTH	DAY	YEAR	HOUR	MINUTE	SECOND	BOX NUMBER	INCIDENT NUMBER	BUILDING NUMBER	EQUIPMENT	MATERIAL TYPE	CONSTRUCTION	STRUCTURE	AREA OF ORIGIN	FIRE EXTENSION	REMARKS								
6	12	89	13	13	1	8054	0231																

ADDRESS		STREET NAME		TYPE	
NUMBER (INCL. HYPHEN)	SUFFIX	STREET NAME	TYPE	SECTION	SECTION
7	1	WTC			

DAMAGE		DETECTORS	
SPR. PERFORMANCE	FLAME	SMOKE	POWER

OCCUPANT (Driver)		ROOM/APT.	
NAME	ADDRESS	ROOM/APT.	ADDRESS

IF MOBILE PROPERTY		TYPE		MAKE		MODEL		VIN		LICENSE		STATE	
TYPE	YR.	MAKE	MODEL	VIN	LICENSE	STATE							
7	008	10											

## OPERATIONS

L-8- search floors 9-40 results negative and then up.  
 B-6- established operations post on 6th floor., then went to 7th floor MER and directed operation of units. Supervised E10, E6, E4 and L15.  
 B-4- supervised operations of L15, L10, an L8 on floors above fire units conducted primary and secondary search of floors above, results negative.  
 Times 10-76 1314 - E10

Under control 1340 - Div 1

Injured Civilians - [REDACTED] - smoke inhalation  
 [REDACTED] - smoke inhalation  
 taken to St. Vincents Hospital  
 [REDACTED] - smoke inhalation  
 [REDACTED] - smoke inhalation  
 taken to Beekman

EMS Chief Cerro directed operations for EMS  
 PA operations Commander on scene Capt. Stinner.

BC Charles Callahan 1  
 Charles Callahan 1317  
 TYPE FULL NAME TIME ARRIVED

DC Robert J. Blume 1  
 Robert J. Blume 1330  
 TYPE FULL NAME TIME ARRIVED

PAGE 2 OF 2



[illegible][illegible]

42L2

115	1	2	NUMBER (INC. TYPE)	STREET NAME	STREET ADDRESS	TYPE	STREET DIRECTION	146
116	1	2	WTC					26
117	1	2						146
118	1	2						146
119	1	2						146
120	1	2						146
121	1	2						146
122	1	2						146
123	1	2						146
124	1	2						146
125	1	2						146
126	1	2						146
127	1	2						146
128	1	2						146
129	1	2						146
130	1	2						146
131	1	2						146
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170	1	2						146
171	1	2						146
172	1	2						146
173	1	2						146
174	1	2						146
175	1	2						146
176	1	2						146
177	1	2						146
178	1	2						

P. A. 211	NAME OF OCCUPANT	ROOM/APT.	YR.	MAKE	LEFT IN CHARGE		FSD NARCIA	POWER	BADGE NO.
					MODEL	SERIAL NUMBER			
		EQUIPMENT INVOLVED IN IGNITION							
		ITEM	212	229	244	264			

## OPERATIONS

Upon arrival at box 8887, 2 WTC found rubbish fire in shaft on the 94th floor. Signal 10-76 was transmitted. Units operated as follows:

- E6-Stretched line from standpipe, stood fast, then up.
- E4-Operated houseline out of stairway "B" on the 94th floor and extinguished fire in utility shaft, then up.
- E7-Assisted L10 in search of upper floors, then up.
- E24-Stood fast at Lobby Command post, then up.
- E5-Stood fast at Lobby Command post, then up.

BC	Lawrence M. Byrnes	01	BN	CC	David M. Byrnes	BN
Lawrence M. Byrnes	13:21	13:21	TIME OF ARRIVAL	David M. Byrnes	13:21	13:21
WHITE—FIRE RECORD	YELL—BATTALION	PINK—REFERRAL	GOLD—ADMINISTRATIVE COMPANY			

2-6A (12/86) 1540-207-01-1000-1

## REPORT — ADDITIONAL DATA

## STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT				DATE AND TIME ALARM RECEIVED				BOX LOCATION				IGNITION				STRUCTURE				AREA OF ORIGIN				FIRE EXTENSION																							
MONTH	DAY	YEAR	HOUR	MINUTE	BOROUGH	BOX NUMBER	INSDCIT NUMBER	BUILDING NO.	CAUSE ON PREMISE	CAUSE INVOLVED	HEAT FORM	MATERIAL TYPE	MATERIAL FORM	CONSTRUCTION	USE	STATUS	FLOOR CODE	OCCUPANCY	AREA CODE	MANNER	OCCUPANCY	RECEIVED REPORT																									
6	08	11	94	13	17	1	8087	0254	00																																						
<table border="1"> <thead> <tr> <th colspan="2">ADDRESS</th> <th>NUMBER (INCL. HYPHEN)</th> <th>SUPPLY</th> <th>STREET NAME</th> <th>TYPE</th> <th>SUPPLY DIRECTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>2</td> <td></td> <td></td> <td>WTC</td> <td></td> <td></td> </tr> </tbody> </table>																								ADDRESS		NUMBER (INCL. HYPHEN)	SUPPLY	STREET NAME	TYPE	SUPPLY DIRECTION	1	2			WTC												
ADDRESS		NUMBER (INCL. HYPHEN)	SUPPLY	STREET NAME	TYPE	SUPPLY DIRECTION																																									
1	2			WTC																																											
<table border="1"> <thead> <tr> <th colspan="2">DAMAGE</th> <th colspan="2">DETECTORS</th> </tr> </thead> <tbody> <tr> <td>48</td> <td>52</td> <td>54</td> <td>58</td> </tr> </tbody> </table>				DAMAGE		DETECTORS		48	52	54	58	OCCUPANT (Driver)				ROOM/APT.				<table border="1"> <thead> <tr> <th colspan="2">BUILDING</th> <th colspan="2">AREA</th> </tr> </thead> <tbody> <tr> <td>114</td> <td>118</td> <td>122</td> <td>126</td> </tr> </tbody> </table>				BUILDING		AREA		114	118	122	126																
DAMAGE		DETECTORS																																													
48	52	54	58																																												
BUILDING		AREA																																													
114	118	122	126																																												
IF MOBILE PROPERTY				TYPE				YR.				MAKE				MODEL				V.I.N.				LICENSE				STATE				DM															
185				195				205				215				225				235				245				255				265				275				285							
5				224				02				5				024				07				5				028				02				5				003				02			
7				101				10				7				003				07				7				005				07				1				001				20			
327				UNIT				PTS				243				245				255				265				275				285				295				305							

## OPERATIONS

E3-Stood fast at the Lobby Command Post, then up.  
 E55-Stood fast at Lobby Command post, then up.  
 L10-Operated on the 107th floor, opened various walls and doors, finding no fire or extension, then up.  
 L15-Assisted R1 in opening up a wall exposing fire in shaft, made necessary search and exam from 94 thru 99th floor (Termination point of shaft) Negative.  
 L8-Made necessary search and exam of floors 100 thru 106, found negative.  
 L5-Stood fast at the Lobby Command Post, then up.  
 L18-Stood fast at the Lobby Command Post, then up.  
 L101-Searsh 75, 91 and 92nd floor, found negative, then up.  
 L1-Made necessary search and exam of floors 104 thru 106, then up.  
 E224-Stood fast at the Lobby Command Post, then up.  
 R1-Used Thermal-Imaging camera and located fire in shaft on the 94th floor.  
 Batt4-Supervised operation on the fire floor, then up.  
 Batt8-Supervised operations on 107 and 74 floors, then up.  
 Batt2-Stood fast, then up.  
 FCU-Monitored handi-talkie circuit, progress reports, then up.

DC. Lawrence M. Byrnes 01  
 B.N.  
 Lawrence M Byrnes 13:21  
 TYPE FULL NAME TIME ARRIVED

DC. David Corcoran 1  
 DIV.  
 David Corcoran 13:25  
 TYPE FULL NAME TIME ARRIVED

PAGE  
 2 of 2



## REPORT -- STRUCTURAL FIRE

[illegible]



E-24A (12/86) 15M2-861531-9028-N

## REPORT -- ADDITIONAL DATA

## STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT		DATE AND TIME				BOX LOCATION		INCIDENT NUMBER	BUILDING NO.	IGNITION				STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION																															
MONTH	DAY	YEAR	HOURL	MINUTE	BOROUGH	BOX NUMBER	CONC. ON ARRIVAL			EQUIP. INVOLVED	HEAT FORM	MATERIAL TYPE	MATERIAL FORM	CONSTRUCTION	USE	STATUS	FLOOR CODE	OCCUPANCY	AREA CODE	MANNER	OCCUPANCY	REVISED REPORT																											
6	08	29	99	07	47	18	084	0128	00																																								
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## OPERATIONS

E-6 Took hydrant, assisted E-7 in stretch.

B.C. William Oehm 01  
B.N.  
William Oehm 07:51  
TYPE FULL NAME TIME ARRIVED

D.C. \_\_\_\_\_ DIV. \_\_\_\_\_  
N/A 00:00  
TYPE FULL NAME TIME ARRIVED

PAGE  
2 OF 2

## Appendix H

### SIGNIFICANT FIRES IN WTC 7

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#### Significant fires occurring in WTC 7

Significant Fire	Incident Date	Fire Location	# sprinklers activated	# standpipes activated	Cause of fire	Material Ignited
1	5/20/88	Construction shanties on floor 3	Multiple, # not listed	1	Suspicious	Shanties

BF-24 (12/88) 9330 E03.9 N

## REPORT - STRUCTURAL FIRE

INCIDENT LOCATION				DATE AND TIME				INCIDENT DURATION				BOX LOCATION				REPORT				COMPANIES RESPONDING				HAZ MAT				SPECIAL USE							
TYPE REPORT				ALARM RECEIVED				HOW REPORTED				HIGHEST ALARM				REPORT NUMBER				ENGINE NUMBER				CLASS				AMOUNT				NEAR EQUIP. AREA			
COMMUNITY	ADJACENT	MONTH	DAY	YEAR	HOUR	MINUTE	SECONDS	MINUTES	SECONDS	MINUTES	SECONDS	MINUTES	SECONDS	MINUTES	SECONDS	MINUTES	SECONDS	MINUTES	SECONDS	MINUTES	SECONDS	MINUTES	SECONDS	MINUTES	SECONDS	MINUTES	SECONDS								
1	01	5	010	05	20	88	0038	01	30	32	1	2	1	0084	0256	0008	04	075	15	11	08														

AIDED AND CASUALTIES				EXTIN. GUSHMENT				IGNITION				STRUCTURE				FIRE ORIGIN				FIRE EXTENSION				DAMAGE				DETECTORS			
CIVILIANS				EQUIP. INVOLVED				MATERIAL TYPE				MATERIAL ROOM				MATERIAL TYPE				MATERIAL ROOM				MATERIAL TYPE				MATERIAL ROOM			
ENLIGHTENED	INJURED	KILLED	UNINJURED	SPR. TYPE	SPR. CODE	SPR. TYPE	SPR. CODE	SPR. TYPE	SPR. CODE	SPR. TYPE	SPR. CODE	SPR. TYPE	SPR. CODE	SPR. TYPE	SPR. CODE	SPR. TYPE	SPR. CODE	SPR. TYPE	SPR. CODE	SPR. TYPE	SPR. CODE	SPR. TYPE	SPR. CODE	SPR. TYPE	SPR. CODE	SPR. TYPE	SPR. CODE				
1	7	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				

ROAD				STREET NAME				TYPE				STRUCTURE				FIRE ORIGIN				FIRE EXTENSION				DAMAGE				DETECTORS			
NUMBER	NAME	TYPE	STRUCTURE	NUMBER	NAME	TYPE	STRUCTURE	NUMBER	NAME	TYPE	STRUCTURE	NUMBER	NAME	TYPE	STRUCTURE	NUMBER	NAME	TYPE	STRUCTURE	NUMBER	NAME	TYPE	STRUCTURE	NUMBER	NAME	TYPE	STRUCTURE				
1	7	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				

DEFECTIVE DETECTOR				SERIAL NO.				BRAND				AREA				WIDTH/LENGTH				STORIES							
NUMBER	NAME	TYPE	STRUCTURE	NUMBER	NAME	TYPE	STRUCTURE	NUMBER	NAME	TYPE	STRUCTURE	NUMBER	NAME	TYPE	STRUCTURE	NUMBER	NAME	TYPE	STRUCTURE	NUMBER	NAME	TYPE	STRUCTURE	NUMBER	NAME	TYPE	STRUCTURE
1	7	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

LEFT IN CHARGE				Sec. Officer Martinez				MODEL				SERIAL NUMBER				POWER			
NAME	NAME	NAME	NAME	NAME	NAME	NAME	NAME	NAME	NAME	NAME	NAME	NAME	NAME	NAME	NAME	NAME	NAME		
1	7	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1		

### OPERATIONS

Upon arrival at Box 84 found fire in construction shanties on the 3rd floor. Transmitted 10:40 am.  
 10:41-1. Units operated VIZ:  
 E10-Stretched line from standpipe and extinguished fire.  
 L10-Found sprinklers and in operation. Shut down sprinklers and made necessary search, ventilation and overhauled as required.  
 E7-assisted E10.  
 E4-Stretched line to 4th floor. Stood fast.  
 E6-assisted E4.

BC: *Rudolph S. Quatrone* BO-1 BY: *0043*

Rudolph S. Quatrone

TYPE FULL NAME: *Rudolph S. Quatrone* TIME OF ARRIVAL: *0043*

WHITE-FIRE RECORD: *0043* YELLOW-BATTALION: *0043* PINK-REFERRAL: *0043* GOLD-ADMINISTRATIVE COMPANY: *0043*

PAGE 1 OF 1

BF-24A (12/86) 15112 861531-PO28-1

## REPORT — ADDITIONAL DATA

## STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT		DATE AND TIME ALARM RECEIVED					BOX LOCATION		INCIDENT NUMBER	BUILDING NO.	IGNITION				STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION																																						
MONTH	DAY	YEAR	HOUR	MINUTE	SECOND	BOX NUMBER	BOX NUMBER	CAUSE OR APPAR			EQUIP INVOLVED	HEAT FORM	MATERIAL TYPE	MATERIAL FORM	CONSTRUCTION	USE	STATUS	FLOOR CODE	OCCUPANCY	AREA CODE	MANNER	OCCUPANCY	REVISED REPORT																																		
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7	010	20	72001	20	7	008	20																																																		

## OPERATIONS

Operations as follows;

L8-Assisted L10 Made primary and secondary search of 5-10,11,12. Then up.  
 L1-Made search and examination of the 4th floor. Then assisted L8 in the examination of upper floors. Then up.  
 Batt 4-Supervised E10 and L10 on fire floor.  
 Batt 2-Supervised E4 and E6 and L1 on floors above fire.  
 FCU- SOP  
 MSU- SOP  
 E3- Stood fast.  
 Batt 6- Stood fast.

B.C. Rudolph S. Quatrone Bn-1  
 B.N. 0043  
Rudolph S. Quatrone TYPE FULL NAME  
0043 TIME ARRIVED  
 D.C. \_\_\_\_\_ DIV. \_\_\_\_\_  
 TYPE FULL NAME TIME ARRIVED  
 PAC 2



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Appendix I  
**EXTRACTED PAGE FROM PACO REPORT ON SPRINKLER PROGRAM**

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**PACO 2002 Report: World Trade Center General Description of All Building Systems and the Capital Program. Extracted page.**

**Miscellaneous Life Safety Improvements and Sprinklerization Program**

## 12: Miscellaneous Life Safety Improvements and Sprinklerization Program

### 12.1 Description of the Program

The initial base building provided for Fire Standpipe (FSP) protection in the Towers and Plaza Buildings and no sprinkler system installation (except in the sub-grade Levels). In response to the enactment of Local Law 5 and other NYC Building Code Local Law enactments related to the fire protection of high rise office towers built after 1973 the Port Authority voluntarily retrofitted the WTC complex to comply with the new NYC Building Code Requirements supplemented by PA imposed life safety requirements unique to the WTC. These requirements provided tenants the option of achieving fire protection compliance by a compartmentalization or a sprinklerization option. The Scope of miscellaneous life safety and sprinkler system upgrades/improvements, other than certain fire alarm, concourse circulation and blast recovery improvements discussed elsewhere, included but was not limited to:

### 12.2 Scope of Fire Life Safety Improvements

#### Architectural Modifications - On all floors:

- Upgraded core wall construction to provide for a 2 hour rated fire separation from one side of a tower floor to the opposite side (Where core wall were already 2 hour rated, such as in elevator shafts, upgraded where not previously required).
- Installed a double acting set of rated HM fire doors in the core corridors where the above 2 hour rated fire separation crossed the corridor (This enabled one half of a typical tower floor to serve as a horizontal fire refuge for the other.) Doors included special magnetic hold open hardware and closures linked to smoke detectors in floor return air ducts.
- Restored all ceilings in corridors and lobbies affected by fire protection installations.
- Provided slab-to-slab 1hour fire rated walls to enable a maximum of 10,000 gross square foot compartmentalization on each side of the 2 hour rated fire separations.

#### Sprinkler System Installation

- The entire WTC complex was fully sprinklered. The Sprinkler System was installed in three basic phases. Phase 1: Sub-grade areas for the initial building construction; Phase 2: Sprinkler riser/main installation throughout 1 & 2 WTC including the sprinklerization of corridors, storage rooms, lobbies and certain tenant/PA spaces in 1976 in compliance with Local Law 5 to provide tenants with a compartmentation or sprinkler fire protection option; Phase 3: The full sprinklerization of the entire complex for all remaining places from 1983 to the 2001 (including 1993 blast recovery and ongoing up-grades/improvements and replacements).
- The Tower sprinkler systems were fed in the various zones from the gravity feed fire reserve tanks located on the 20<sup>th</sup>, 41<sup>st</sup>, 75<sup>th</sup> and 110<sup>th</sup> Floors through a 4" vertical sprinkler riser located in the Janitor Closet on each floor of each building in the WTC complex.

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